# AMIGA COMPUTING

Issue 46 • March 1992 • £2.99

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# Some things are worth waiting for ...

## HiSoft Devpac 3



Devpac 3 gives complete control over the assembly process

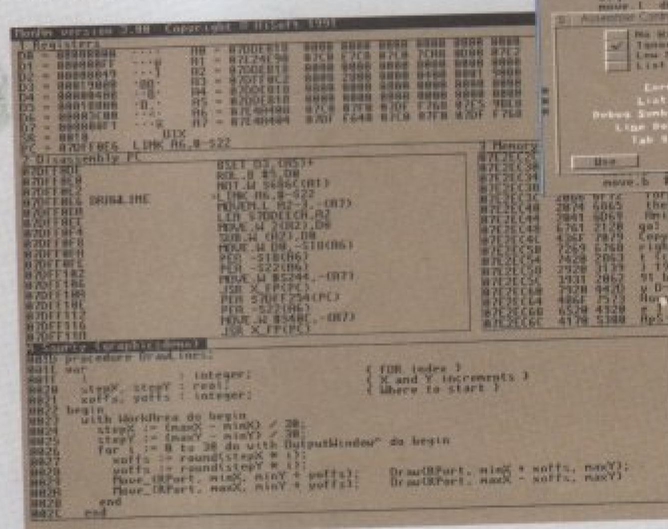
Devpac Version 3 is here at last. The two earlier versions of HiSoft Devpac for the Amiga set a standard in 68000 assembly language programming which was hard to surpass, but we think that we've done it. This new package has had a complete face-lift, from the editor through to the debugger; in fact so many features have been added and improved that we feel confident in the claim that Devpac 3 is the ultimate assembly language development system on the Amiga ... for now!

### The Editor

A new multi-window editor with bookmarks, mouse block-marking, macros, complete window flexibility (including multi-views on one file), extensive user configuration and full integration with the other Devpac programs. The editor makes use of Workbench 2 or 1.3 automatically.

### The Assembler

Improved and extended, the Devpac 3 assembler is now at least 40% faster than its predecessor (without pre-assembly), supports the full 680x0 range of processors including the maths co-processors and has a tremendous number of switchable optimisations. With the ability to pre-assemble files for inclusion, it can now claim to be the fastest assembler on the Amiga.



the debugger supplied with both packages

### The Debugger

Devpac 3 is provided with a versatile debugger/disassembler for bug hunting and ease of learning. You can have as many views on your program as you like, including its source code; then set breakpoints, single-step instructions etc. even at a source code level. Again, there is support for all the new processors and the floating point chips.

*Devpac 3 comes complete with all the necessary include files, a linker, many examples and a clear, helpful manual.*

## HighSpeed Pascal



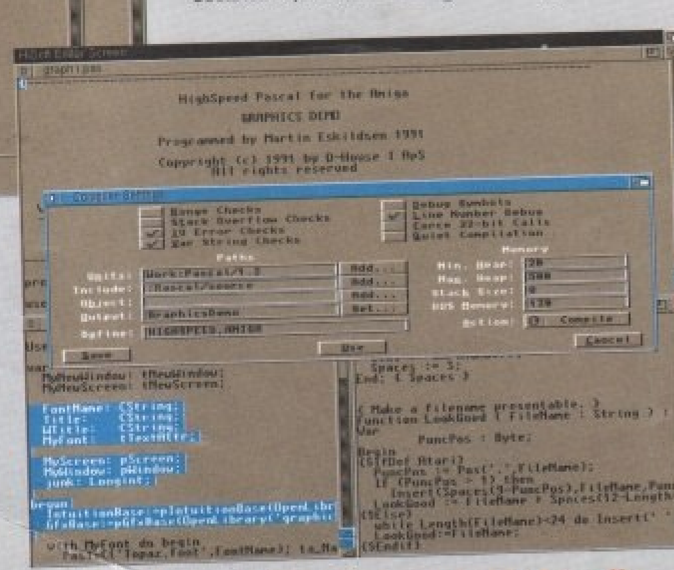
error detection is fully interactive

At last, a new Pascal compiler for your Amiga; HighSpeed Pascal. Compiling at close to 20 000 lines per minute on a humble A500 and with a fully integrated environment (based on the new HiSoft multi-window editor), HighSpeed Pascal is the answer to your programming prayers.

The compiler is very close to the standard set by Turbo Pascal 5 on the PC and enables you to port programs directly from the PC or ST - even the BGI unit is provided for graphic compatibility. You can compile separate units, link with assembler or use the inline assembler provided and we also supply a special version of our 680x0 debugger which allows you to debug Pascal programs at a source code level.

The full Pascal language is supported including such worthy additions as structured constants, flexible string handling and absolute variables.

*HighSpeed Pascal comes complete with all the necessary files for working with the Amiga's operating system, a host of examples and a professional, ring-bound manual.*



HighSpeed Pascal is remarkably friendly and easy-to-use

*HiSoft Devpac 3 (£69.95) and HighSpeed Pascal (£99.95) should be in your local computer shop soon. If you have difficulty locating a copy, you can order directly from HiSoft using Access/Mastercard, Visa, UK debit card (Switch etc.) or a cheque/postal order. Mention this magazine when ordering to receive a free T-Shirt or mouse mat (offer subject to availability).*

HiSoft Devpac 3 and HighSpeed Pascal are just two of the products that we supply for your Amiga. Other titles include: ProFlight, HiSoft BASIC, Extend, SAS/Lattice C 5 and HiSoft C. For more details contact us at - HiSoft, The Old School, Greenfield, Bedford MK45 5DE UK.

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MARCH 1992

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For almost four years *Amiga Computing* has been the leading magazine for Amiga enthusiasts. As a key member of the Europress magazine group, *Amiga Computing* promises to inform, educate and entertain its readers each month with the most dedicated coverage of the Amiga available.

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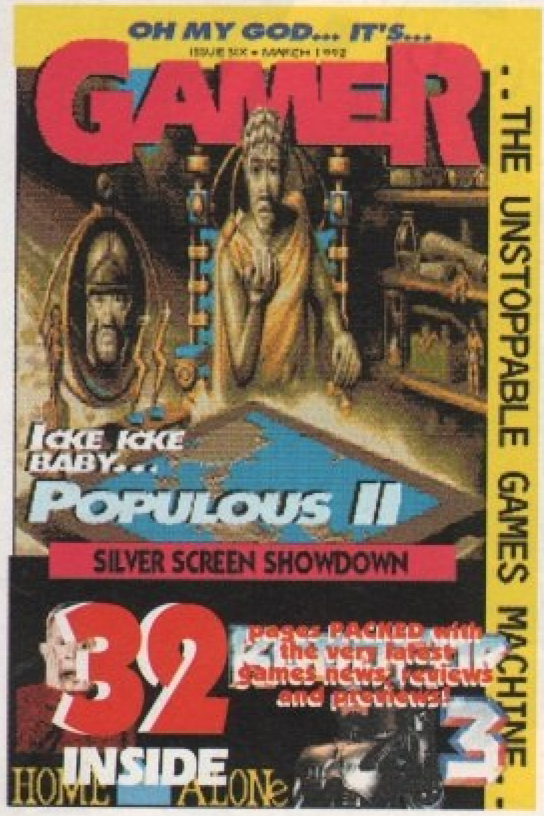
# PAINT LIKE THE PROS

Artistic tips from the creator of ITV's stunning Motormouth computer sequences! Gareth Morgan shows you how it's done on page 20

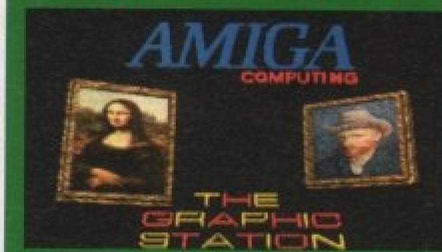
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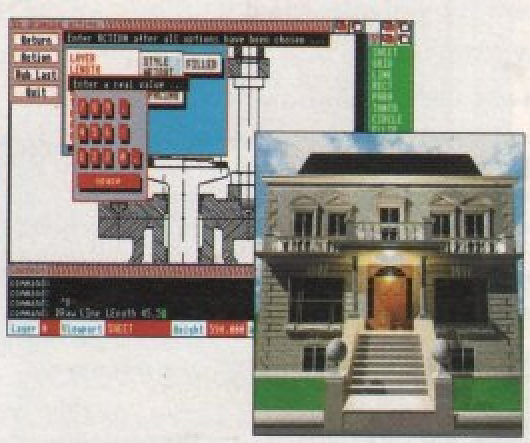

## READER OFFERS




Personal finance, video frame grabbing and much more – there's an offer to suit you on pages 158 -161

## SPECIALS





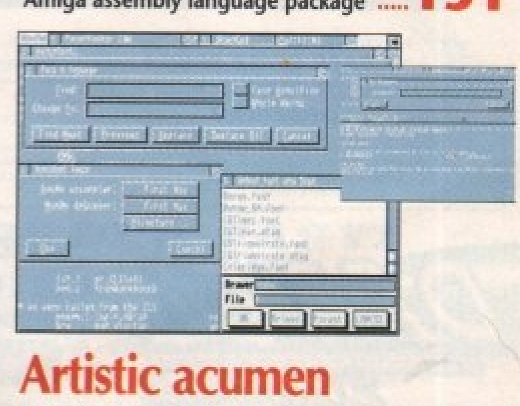














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- **VIRUS DETECTION**
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NEW **BURST NIBBLER.**
Now this super disk copier program is built into Action Replay Mk III. Just imagine a superfast, efficient disk copier program at the press of a key - no more waiting.

- **SAVE PICTURES AND MUSIC TO DISK**
Pictures and sound samples can be saved to disk. Files are saved directly in IFF format suitable for use with all the major graphic and music packages. Samples are displayed as screen waveform.

NEW **PAL or NTSC MODES SELECTABLE** -
Useful for removing ugly borders when using NTSC software. (Works only with newer Agnus chips).

- **SLOW MOTION MODE**
Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!

NEW **MANY MORE INSTANT CLI COMMANDS** -
like Rename, Relabel, Copy, etc.

- **RESTART THE PROGRAM**
Simply press a key and the program will continue where you left off.

- **FULL STATUS REPORTING**
At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.

- **POWERFUL PICTURE EDITOR**
Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status "overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!

NEW **JOYSTICK HANDLER** -
allows the user to select Joystick instead of Keypresses - very useful for many keyboard programs.

- **MUSIC SOUND TRACKER**
With Sound Tracker you can find the complete music in programs , demos,etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!

- **AUTOFIRE MANAGER**
From the Action Replay III preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!

NEW **IMPROVED RAM EXPANSION SUPPORT.**
Now many more external Ram Expansions will work with all Action Replay III commands.

- **DISKCODER**
With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. "Tagged" disks will only reload when you enter the code. Very useful for security.

NEW **SET MAP** -
allows you to Load/Save/Edit a Keymap.

- **PREFERENCES**
Action Replay III now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.

- **DISK MONITOR**
Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options.

NEW **IMPROVED PRINTER SUPPORT** -
including compressed/small character command.

- **DOS COMMANDS**
Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.

NEW **FILE REQUESTOR** -
if you enter a command without a filename, then a file requestor is displayed.

- **DISK COPY**
Disk Copy at the press of a button - faster than Dos Copy. No need to load Workbench - available at all times.

NEW **PLUS IMPROVED DEBUGGER COMMANDS** -
including Mem Watch Points and Trace.

- **BOOT SELECTOR**
Either DF0 or DF1 can be selected as the boot drive when working with Amiga Dos disks. Very useful to be able to boot from your external drive.

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REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN IT'S "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUISITIVE!



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AMIGA COMPUTING NEWSLINE

Exclusive

# Classic Amiga under development

**By John Butters**

A NEW Amiga with the development name Amiga Classic is set to bridge the gap between the A2000 and A3000 later this year, says a source close to Commodore US.

Officials at the firm refuse to admit its planned release, although *Amiga Computing* can reveal many of the Classic's specifications.

Based on a 68020 processor, it will come with two megabytes of memory, 16-bit sound and the latest operating system. An internal hard drive will be fitted as standard.

A monitor will be supplied and it looks "similar but slightly smaller" than the top-end A3000. Price is expected to be fixed below £2,000 and it could hit Britain in the second half of the year. Spokesman for Commodore UK, Andrew Ball, said: "I'm not going to comment on any new computers in the Amiga range. So much changes so quickly – the future is vapourware."

However, hints of a new machine in this area of the range have been given recently by top personnel from the manufacturer's Maidenhead office.

Industry experts say the Classic will be part of a new generation of Amigas. A new high-end computer called the A4000 is expected to run from a 68040 and be the first of these machines.





*The Classic looks like the A3000 (pictured above) but in smaller case*

## A300 for as little as £250?



*Kelly Sumner – quiet on A300*

PRICE is the only disagreement being voiced over our exclusive news story in January about the new baby Amiga, the A300.

A likely price for the console-beating Amiga seems to be £299, although figures as low as £250 are being talked about within the industry. No software is expected to be bundled with the machine.

While Commodore remain quiet on confirming the machine, developers writing to the online service CiX hit out at *Amiga Computing* for reporting the computer before it was announced by the giant.

The closest the firm have come to opening up on their plans for the A300 came when their sales director Kelly Sumner told our sister publication, the trade newspaper *Computer Trade Weekly*: "We will be expanding our range of Amigas".

He said there would be two new products but added that neither will be available in the first half of the year.

## Imagine joins Mercury

A COPY of Impulse Software's ray tracing program Imagine version 2 is now being supplied free with Progressive Peripherals and Software's Mercury accelerator.

Mercury is a 68040 board running at 33MHz on A3000s. Up to 32 megabytes of memory can be added and unpopulated it costs $2,599.95. The Denver-based company can be contacted on 010 1 303 825 4144.

## Compatible laptop ready

FREQUENT travellers are to be offered the first Amiga-compatible laptop computer in the next few weeks, which is being advertised in the American computer press.

Developed by Kansas-based Newer Technology (010 1 316 685 4904), the Model 10 is fitted with two megabytes of memory, Workbench 1.3 or 2.0, AmigaDOS ROMs, a floppy drive, standard 86-pin expansion bus and a liquid crystal display.

Add-ons are to include an external 40 meg hard drive, internal 20 meg hard disk and memory upgrades up to 8 meg.

Depending on its configuration the Model 10 weighs in between three and six pounds and measures 11.7in x 8.3in x 2in.

Newer Technology were unavailable for comment on the length of operation available from the battery or UK availability.

Supplier of the machine, Briwall (010 1 215 683 5661) hope to sell it for less than US$2,000.

# Amiga continues as best seller

LAST year the Amiga was once again Britain's best selling home computer. More than 250,000 machines were sold.

In the last six months of the year 198,000 Amigas were passed to dealers, representing an increase of 39.4 per cent over the same period last year.

But Commodore bosses predict that sales are going to climb even higher this year, despite tough economic conditions and games consoles continuing to take a larger share of the market.

The firm's sales director Kelly Sumner forecasts that a figure of 300,000 will be topped.

"In a recession-hit Britain, the Amiga 500 has achieved phenomenal Christmas sales and will reach an installed base of one million soon," predicted Commodore boss Stephen Franklin. "The Amiga has proved once again that the smart money is spent on computers rather than the limited scope of games consoles."

Meanwhile, CDTV player sales were less than the firm had anticipated earlier in the year. Commodore say that it has an installed user-base in the UK of between 15,000 and 17,000.

But Franklin is confident of a massive improvement this year. "The CD-ROM drive for the Amiga is going to be very, very important and I think that this product will make the market for CDTV really come alive," he said.

"In a very short period of time any developer or publisher will be looking at a user base of 100,000 in the UK alone."

## New OS goes mid-range

UPDATES to the Amiga family have continued this month with the A1500 and A2000 now running from the improved operating system.

Workbench 2.04 and Kickstart 2 are included with both computers. Unlike the A500, neither have been rebadged as a Plus and are now selling from dealers nationwide.

Meanwhile, owners of older Amigas will soon be able to upgrade their computers to the new specification. Commodore's Andrew Ball says kits will filter through to the market "at any time".

Prices are to be less than £80 but people requiring the Super Denise chip will meet higher charges

## Firms line up for 16-bit show

AS show organiser Westminster Exhibitions put the finishing touches to their 5th International 16-bit Computer Show, details of new Amiga products expected to be shown have become available.

Enthusiasts interested in upgrading their machine should look out for the IQLR-500 Tower System which is due to be demonstrated for the first time by Checkmate Digital

Holding the A500 motherboard, it is supplied with a separate keyboard, internal fan, power supply and key lock for security.

Checkmate also plan to launch an enhanced graphics card capable of displaying more than 16 million colours on the computer at a resolution of 768 x 580, as well as the ability to overlay standard Amiga graphics.

Also of interest to Amiga owners will be Precision Software – Oxxi. The company will show their Superbase database as well as products from their American parent, Oxxi.

Other firms lining up to support the Amiga family are Power Computing, Surface UK, HiSoft, GFA Data Media and a variety of education and leisure software houses.

As we went to press more than 160 firms were set to attend and the organisers forecast attendance to top 35,000.

## A first from System Solutions

A LOW-COST, high quality A4 flatbed scanner is the first Amiga product due from System Solutions (0753 832212), a firm which is well respected in the Atari ST community.

Colourscan 3000 has a resolution ranging from three to 300 dots per inch – selectable in steps of 3dpi – and can handle line art, halftones and colour photographs.

A white lamp ensures colour and tone graduation is even and natural, with colour accuracy being maintained with automatic white calibration and an optic test before every scan.

Bundled with Colourscan 3000 is an interface to connect it to the Amiga. Cost: £1,495.




## Free guide for buyers

SOFTWARE and hardware buyers can now select products with the help of a 64-page colour catalogue just published by Silica Systems.

Listing every product in the firm's Amiga line, it gives a brief description of each and includes some screenshots and illustration. For a free copy of the guide call Silica on 081-309 1111.

## ICD prices cut

IN A "recession beating" move, peripheral manufacturer ICD Incorporated (010 1 815 968 2228) have announced lower prices on nearly all of its Amiga products.

"We must be true to our motto," said Thomas Harker, president of ICD Incorporated. "ICD offers the best product, at the best price with the best support. Two out of three is not good enough for us. We intend to be market leaders."

Quick to respond to moves on the other side of the Atlantic, ICD's UK distributor Power Computing (0234 843388) immediately dropped their prices. Examples of the new prices are Flicker Free Video becomes £199, Novia 20i drops to £199 and Novia 40i £325.

## Software that's out of this world

LATER this year Europress Software (0625 859333), publisher of the best-selling Fun School education software, are to release a new label.

For children aged 11 to 14 years old, ADI is set for an April launch and will centre around an extra terrestrial character of the same name.

Titles will include maths, English, French and science.

## Professional printing

**AN AMIGA-specific printing bureau has been formed for users needing to output files to film or paper.**

**The company, equipped with A3000s and an Image Setter, is able to print nearly all types of Amiga file within a day of receipt. Prices start at £4 for an A4-page.**

**B J Print and Graphics are at 19 Winsu Avenue, Paignton TQ3 1QG. They can be telephoned on 0803 666003.**

## Speed for cheap hard drives

BUILDING on their DataFlyer line of low cost SCSI controllers, Expansion Systems have introduced a new for IDE and AT types of hard disk.

The controllers share features found in the company's DataFlyer SCSI line but have data transfer rates faster than any SCSI drive and the ability to use lower cost IDE drives.

In addition to speed, DataFlyer IDE has easy formatting software, mouse button game switch, Syquest autodiskchange and AmaxII-compatability.

Controllers are available for A500, A1000, A1500 and A2000s and each accepts an optional plug-on DataFlyer RAM card to add up to eight megabytes of memory to the system.

DataFlyer IDE costs £99.95 for A2000s and £199.95 for other Amigas from Hard Cache Sales (071-704 1614). Price for unpopulated DataFlyer RAM is £149.95.

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| Konix Speedking Auto | £12.49 |
| Zipstick Superpro Auto | £12.99 |
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## New Horizons turn to CD

NEW Horizons Software (010 1 512 328 6650) have signed a licensing agreement with The Station for the Texas-based dealer to manufacture and sell a CD-ROM package.

Programs included on a single CD-ROM are New Horizon's ProWrite 3.2, Flow 3.0, DesignWorks and ProFonts I, in addition to a "large quantity" of public domain software.

"We see this all-in-one personal workstation, using Commodore's CDTV, as a unique idea with tremendous potential," said New Horizon's boss James Bayless.

"The combination of a stereo CD and CD+G player with a complete computer system including wordprocessing and drawing programs installed and preconfigured on CD-ROM is perfect for both students and first time buyers," he explained.

The Station will sell the software in a package called Odyssey. The bundle includes a CDTV, 1084S monitor, printer, external floppy drive, modem, mouse and keyboard. It sells for $1,995.

## Workbench books published

ANYBODY having problems with the Amiga's Workbench could benefit from reading two new books published by Kuma Computers (0734 844335).

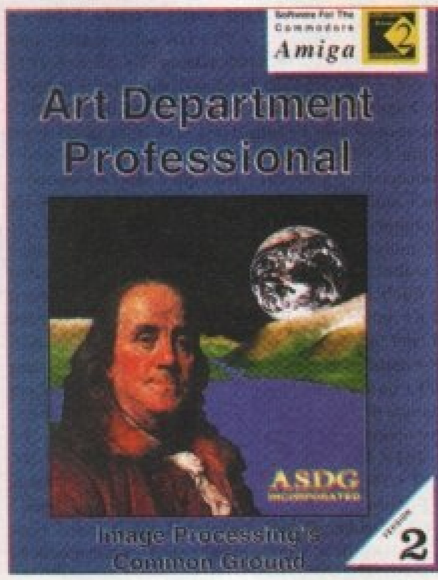
Written by Mark Smiddy, both have tutorials covering major Workbench functions supported by practical tips and examples.

Printers and printing – a frequent problem area – is given extensive coverage which includes tables of printers and compatible drivers.

The Little Red Workbench 1.3 book is for WB1.3 users and the Little Blue Workbench 2 book is for people using v2. Each costs £14.95.

**DO YOU KNOW SOMETHING WE DON'T?**

Although *Amiga Computing* has scores of contacts in the Amiga world, we need you. If you have some hot news ring John Butters on the news desk now on 0625 878888 or fax to 0625 879966. All information supplied will be treated in the strictest of confidence.




## Sun shines on ADPro

USERS of ASDG's Art Department Professional are now being offered an upgrade of their Professional Conversion Pack, giving the ability to read and write common image file formats required in professional video and graphics settings.

The new version adds support for the X11 and SUN image file formats sometimes used by high-end graphics and animation systems running on Unix.

SUN support has the ability to use an alpha channel to control compositing operations. Alpha channel support has also been added to the Targa and Rendition loaders already provided by PCP.

Existing owners of PCP will be able to upgrade later this year when the firm also updates ADPro. ASDG can be contacted on 010 1 608 273 6585. In the UK call Silica Systems (081-309 1111). US price: $90.

## Birmingham schools sound out Amigas

ANOTHER goal has just been scored in attempts to get the Amiga taken seriously in education as Birmingham schools evaluate 105 A500s.

Birmingham's Education Authority – the UK's largest Metropolitan Authority – have taken the computers to meet National Curriculum requirements in art and design and music at 80 of the city's secondary schools.

As part of the scheme, a music centre has been set up in the Joseph Chamberlain College, funded by the local education authority and the Technical Vocational Education Initiative Extension.

It will act as a test and development site for music software, curriculum materials development and for training staff in an area in which the Amiga has not yet built a strong reputation. The centre will provide case study evidence to help Commodore develop the Amiga range to support music applications for the National Curriculum. Roland have supplied keyboards, sound modules and speakers.

Mike Kendell, IT project manager for Birmingham LEA, said: "The centre will be used as the focus for development work.

"It will look at what the computers can do and what the curriculum requires – making a match where possible and highlighting areas where a match is not possible."

Commodore introduced the evaluation scheme during last autumn and the firm says it has been such a success that some schools have decided to buy their own Amigas.

## From basics to theory of transistors

AIMED at electronics students more than 10 years old is a new package centred on a designer board that connects to the Amiga.

Tekno Amiga takes users from absolute basics through to transistor theory. Working with the components supplied and the project circuit board, the Basic Book of Electronics explains a series of experiments, gradually progressing through the subject.

It is supplied with a basic electronics book, an Amiga projects handbook, and a project software manual for people who want to create their own software to control experiments.

Also provided with Tekno Amiga are five digital inputs, two analogue inputs and eight digital outputs. Software enables all the inputs to be monitored, and controlled outputs on timed or triggered events to be generated.

Designed by Swedish firm Catus AB, it is available in the UK for £84.95 from HB Marketing (0753 686000).

## CES opens to public

FOR THE first time in the show's 25-yerar history, the public are to be allowed entry to the giant Consumer Electronics Show to be held in Chicago this summer.

The Electronic Industries Association's Consumer Electronics Group, organiser of the show, says the move was a result of exhibitor recommendations.

Some firms, however, are reported to be worried about extra costs and the need to cater for trade visitors and consumers at one event.

The expected 50,000 visitors will be able to have a look at everything on show but the organiser has stressed that no products will be sold.

## Evesham race into first

TEAM Evesham Micros were awarded a new Rover 216GTi 16-valve twin cam racing car recently after dominating last year's Dunlop Rover GTi Championship.

Winning driver Dave Loudoun claimed his prize after a season in which he had five wins, three pole positions and one fastest lap.

Managing director of Evesham Micros, Richard Austin, had his best result, finishing 12th. The team are now preparing for this year's season which starts in March.



*Team Evesham Micros drivers Dave Loudoun (left) and Richard Austin (right)*

# Amigas join Novell NetWare

THE FIRST software to enable Amigas to be integrated into Novell NetWare networks has just been announced by Oxxi (010 1 310 427 1227).

Amiga Client Software means Amigas can join DOS-based PCs as well as Macintosh and Unix machines in file and resource sharing.

Using available Ethernet or Arcnet adaptors, Amigas can be added to networks and Novell NetWare utilities can be performed through icons or directly from the Command Line Interface. The standard Novell NetWare password and ID scheme means that Amiga users are governed by assigned access rights to directories and files on the network. Files can be protected from alteration, theft or access by unauthorised people.

Several Amiga-specific utilities are also contained in ACS. AmigaBack helps server-based information to be backed up or restored without leaving the Amiga.

NetMessage is for people wishing to broadcast messages to other network users on local and interconnected Novell networks. Previous messages can also be displayed.

For anyone using an Apple Macintosh on the network, ResToData takes the resource fork of any Mac file and converts it into a new PC or Amiga file.

It requires an appropriate Ethernet or Arcnet LAN adaptor with cabling and a PC-compatible fileserver using Novell NetWare version 2.15C, 2.2 or 3.1x or higher.



*Logic 3's first mouse is aimed at games players*

## Mouse games

GAMES players are being targeted for a new replacement mouse from a firm which has previously only manufactured joysticks.

Logic 3 (081-900 0024) boss Ashvin Patel says his £17.99 Speed Mouse caters perfectly for the increasing number of games which are better suited to mice than joysticks.

## The Graphic Station arrives

FOLLOWING the success of The Workstation, *Amiga Computing* has developed the Graphic Station to give total and simple control over the Amiga's graphics.

Graphics and text can be transferred to other file formats and computers including PC-compatibles and Atari STs and a directory manager makes simple work of file and directory operations.

Using, Huge, icons can be created to stylise the user interface or animated characters generated for incorporating into games.

PrintStudio helps to print text, screen grabs and images created in any paint program with instant fine tuning. Using FontMaster, typefaces can be designed and shadows of definable depth added later using ShadowMaker.

Price: £4.50 from Europress Direct (051-357 1275).

## Dyslexia sufferers get Amiga help

A FATHER has developed Amiga software which could help Britain's half a million children suffering from dyslexia, using teaching methods he developed to help his son get around his own difficulties.

Max Lipman of Maidenhead-based Sally Systems became interested in dyslexia when his son began having problems at school. He hired a private tutor for three hours a day and watched teaching methods used.

"A lot of the exercises involved seeing something with the eye and then doing something mechanical with the hand so that connections were forced to be made," said Lipman.

"I saw that a lot of these exercises could be played with a machine, that would free up the teacher's resources to do things that required a more personal approach.

Max had sold his computer firm and in 1987 he started investigating the possibility of developing dyslexia software in his spare time.

Price was the main reason for the Amiga being chosen as the best platform for the software, as he was looking to develop a total solution that could be bought with funds raised by a parent/teachers association or by a parent.

Spelling and reading skills are addressed in the first module of Travels in Time and the next release will be extended to cover sequencing problems. Future software will introduce special exercises on how to use a dictionary and look at various aspects of grammar.

Each child has their own 3.5in disk which enables them to access the system by entering their name and personal settings, which tailors the system to the child's capability. A log monitors the child's progress.

Sally Systems will market a complete package including the software, A500, 20 megabyte hard disk drive and other general purpose software. Schools already owning Amigas can buy the software separately.

## Savings for Midi

MUSICIANS using Amigas can now buy a package described as a "price breaking Midi solution" from TechnoPlus (0604 768711).

TechnoPlus's Midi Pack includes an interface with leads and the entry-level sequencing program Music X Junior. Features include Midi in port, two Midi out ports, Midi out/thru ports and serial pass-thru feature. The £39.95 price tag represents a saving of more than £70.

## Music show date confirmed

THE Third Midi Music Show is set to take place at the Hammersmith Novotel, London, from April 24 to 26. Already most major players have confirmed their presence with organiser Westminster Exhibitions (081-549 3444).

## DIARY DATES

**14 to 16 February 1992**
*5th International 16-bit Computer Show*
*Organiser: Westminster Exhibitions*
*(081-549 3444)*
*Venue: Wembley Exhibition Halls*
The first post-Christmas show for ST owners, and a new venue for this growing event.

**7 to 10 April 1992**
*Which Computer? Show*
*Organiser: Reed*
*(081-948 9800)*
*National Exhibition Centre, Birmingham*
One of the country's top shows, but heavily biased towards the PC.

**12 to 14 April 1992**
*European Computer Trade Show*
*Organiser: Blenheim Online*
*(081-868 4466)*
*Venue: Business Design Centre, London*
A trade-only show where many of the year's releases can be previewed.

**28 to 31 May 1992**
*Spring Computer Shopper Show*
*Organiser: Blenheim PEL*
*(081-742 2828)*
*Venue: Olympia, London*
Promises to attract many Amiga exhibitors.

**10 to 12 July 1992**
*6th International 16-bit Computer Show*
*(081-549 3444)*
*Venue: Wembley Exhibition Halls*
The second show of the year, for an event that's getting more and more support from the industry.

## OVERSEAS

**3 to 5 April 1992**
*Amiga Berlin*
*Organiser: AMI Shows Europe*
*(010 49 8092 24086)*
*Venue: AMK Berlin*
The first German Amiga show of the year. Two giant halls will be packed with the latest products.

**28 to 31 May 1992**
*Consumer Electronics Show*
*Organiser: EIG/CEG*
*Venue: Chicago*
The show opens for the first time for the public on May 30, 1992.

**8 to 11 October 1992**
*Amiga Koln*
*Organiser: AMI Shows Europe*
*(010 49 8092 24086)*
*Venue: Koln Messe*
A chance to catch up on the year's developments in the active Amiga world.

● *If your company is organising a show relevant to the Amiga and it's not listed, let us know so we can include the information in the diary.*

# Whither WordPerfect?




**Report by Denny Atkin**

SOON after the Amiga 1000 was launched in the United States, it was announced that WordPerfect Corporation would be porting their top-selling wordprocessor to our favourite computer.

This was a very good thing for the Amiga's reputation, as we now had two "major" software companies claiming support for the platform – Borland, with Turbo Pascal, and WordPerfect.

Except for the full page Turbo Pascal ad in the first issue of *Amiga World*, we never heard from Borland again. But WordPerfect Corp delivered on their promise by early 1987, and Amiga users now had a professional-level wordprocessor.

## De-bugging

The first version was somewhat buggy, slow, and almost followed Amiga user-interface conventions – but not quite.

Still, for those of us who had been struggling to create acceptable documents for our university classes with TextCraft and Scribble!, even a quirky, slightly unstable WordPerfect was a welcome sight.

Over the years, WordPerfect Corp. slowly worked the bugs out of their program, resulting in a stable but utilitarian application.

In the meantime, the company started, and halted, a port of their PlanPerfect spreadsheet. Beta testers for this program say that the graphing/drawing package included with this package was the best they'd seen on any computer.

## Unix port?

The most recent version of Amiga WordPerfect, v4.1.12, addressed almost all the program's problems. This was the first version with true Amiga-style requesters.

Most of the quirks were gone, and the program was now Workbench 2.0 compatible. With this release, it seemed that development of the wordprocessor was back on track. Unfortunately, it will probably be the last.

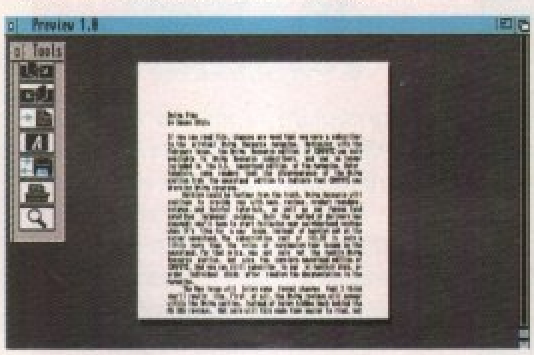
Just a couple of months ago, a WordPerfect vice-president stated in a chat conference on the GEnie online network that the company was in the first stages of porting the Unix version of WordPerfect 5.0 to the Amiga.

Some US magazine writers were signed on as beta-testers. Then, at the recent Oakland, California AmiExpo, one of the speech sessions was slated to be "WordPerfect 5.0 on the Amiga" hosted by WordPerfect Corporation.

However, the WordPerfect Corp representative wasn't there, and a Commodore executive did a question and answer session instead. WordPerfect fans became understandably worried. In early November the axe dropped.

First, beta testers posted notices on the online networks that they had been notified that development of a new version had been cancelled.

According to the letter received by the testers, the reasons that development was cancelled were the lack of adequate development tools on the Amiga for a project the size of WordPerfect, and that an Amiga 3000 would be needed to take full advantage of the program.



*The standard WordPerfect screen, and the Previewer included with v4.1.12*

A few days later, WordPerfect Corp posted an official release on the online networks, saying that development had been halted but saying that the sales performance of the product was at fault – sales weren't supporting development.

In the US, where Protext is unknown, this leaves MSS's Excellence! as the only wordprocessor with features like footnotes and indexing. Amiga users on the online networks are in an uproar, hoping to get WordPerfect Corp to change their minds.

## Write away

Indications are that the program was very close to the beta testing stage, and mainly just needs to be debugged before release. It's possible that the company could be convinced that it could recoup its costs on the program if it would finish it.

If you want to see WordPerfect 5.0 on the Amiga, you should send a letter to the company telling them that if they develop the version, you'd be interested in buying it. Letters should be sent to WordPerfect Corp, Amiga Products, 1555 N. Technology Way, Orem, Utah, 84057 USA.

## Shell Collection

IF YOU use your Amiga for more than gameplay, you probably spend more than a little time using the AmigaShell CLI. The Shell has been continually improved since the AmigaDOS 1.0 days, adding aliases, search paths and command-line editing. However, there's always room for improvement – a fact not missed by ARexx-creator Bill Hawes.

His WShell product added a number of features to the standard AmigaShell, many of which Commodore has added to AmigaDOS Release 2.04, the version shipping on the 500 Plus.

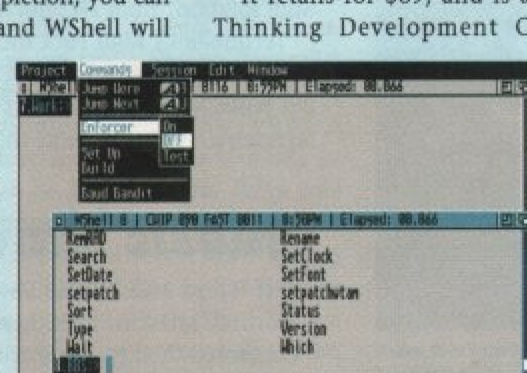
### More flexible

Just as the AmigaShell got better, though, Hawes' Wishful Thinking Development Corp announced WShell 2.0, once again making WShell live up to its claim of being "the most advanced command shell available for the Amiga" Among its WShell adds more flexible command-line editing, configurable menus for your Shell window, command abbreviations, better ARexx support, more built-in commands and improved piping. With Filename completion, you can type part of a filename, hit a key, and WShell will complete it.

One of the handiest features is the console history – WShell adds a scroll bar to your CLI windows so you can look back at text that has scrolled off the screen. You can configure your window title bar or Shell prompt to display available fast and chip memory, the path, the current time, the amount of time it took to execute the last command, and more. WShell even registers the Shell window as an AppWindow, so if you drag a Workbench icon into the window, the filename will appear at the prompt.

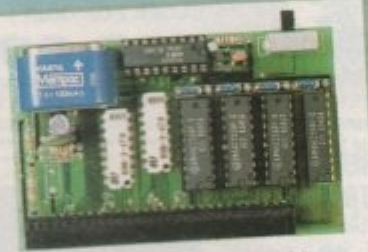
WShell works under AmigaDOS 1.3 but some features require 2.04. It's a must-have for programmers, ARexx users, and anyone who uses the Shell often.

It retails for $89, and is available from Wishful Thinking Development Corp, P.O. Box 308, Maynard, MA 01754. Tel: 010 1 508 568 8695.



*WShell adds a scrollbar, title bar info, and custom menus to your Shell window*

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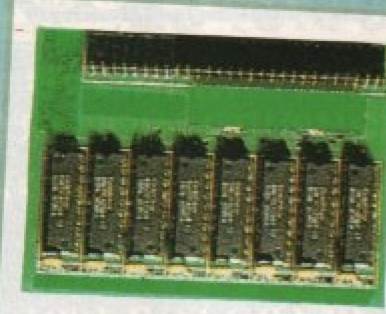
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|---|---|
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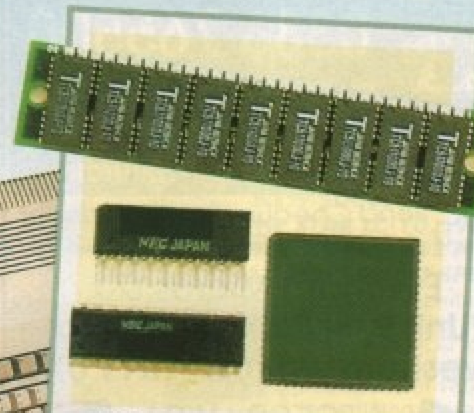
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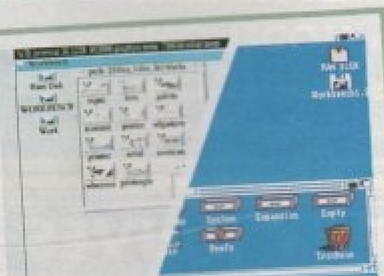
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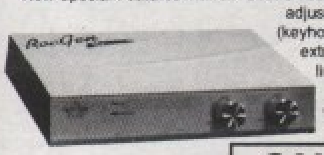
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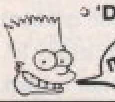
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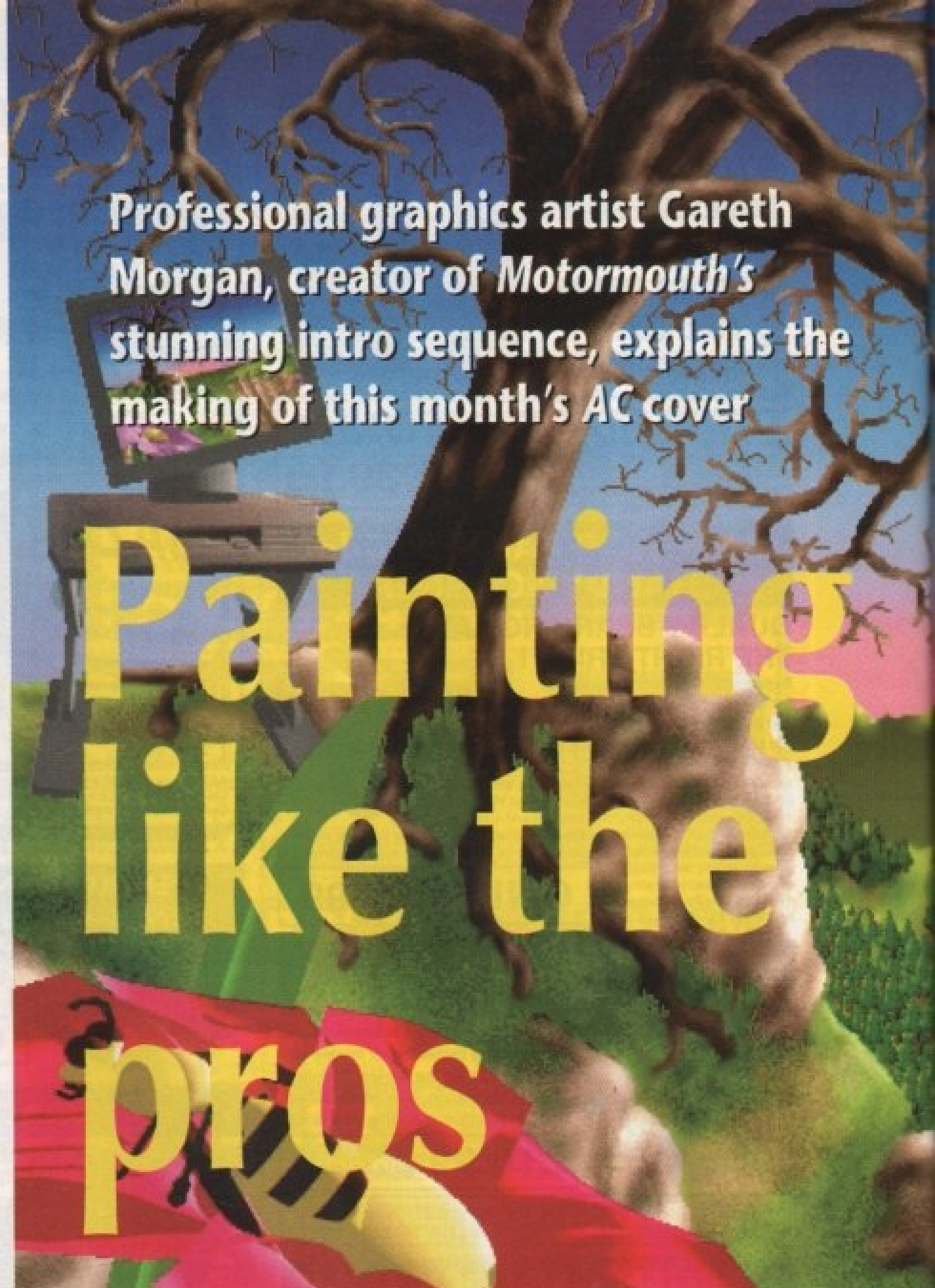
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# Painting like the pros

**Professional graphics artist Gareth Morgan, creator of *Motormouth's* stunning intro sequence, explains the making of this month's *AC* cover**



With DPaint and a certain amount of imagination, it's possible to create stunning and original images on your Amiga. They might not be of such high quality as those I can produce with my Harlequin, TVpaint, and Real3D Turbo, but the techniques used are almost identical. If you don't believe me, keep an eye on *AC*'s Gallery section. If you want to know more about the exact configuration of hardware and software used to produce these images, read the panel on the opposite page.



To begin with, I drew a simple sketch, outlining the main areas of colour, and the overall composition. This isn't by any means a final layout, but it serves very well to get the project started. This can be done either on paper or as a mono line drawing onscreen. I tend to keep the lines as thin as possible and a similar colour to the background, simply to reduce the edging on the filled areas – bold sketches need lots of retouching, which takes a long time.

The next step was to organise the palette. I need to have all the colours I'll be using, and any gradient fills (called "density fills" by TVPaint) ready before I can begin filling large colour blocks.

This is achieved quickly and simply with one of TVPaint's most powerful features – the density requester. Clicking once (right mouse button) on the small square marked "D" on the TVPaint main menu reveals the density requester, which allows me to pre-set the colour gradients I want to use and fill with semi-transparent colour areas which can even be multicoloured ranges.

For example, on the Amiga screen in the landscape picture there is an evening skyline. The orange to deep blue gradient was defined as a colour cycling density fill, and drawn in one operation onto a black background, having pre-set the palette with the correct colours first. The brightness of the density fill was set to reduce in intensity from the centre of the sunset to the edge of the screen.

Again, on the Amiga's screen image, there is a cliff face. This was initially a line drawing, and then a two tone (dark and light brown) solid. Gradient fills were added later to increase the range of the surfaces, and to provide a sense of depth. The bottom right-hand corner was then darkened slightly to accentuate the cliff-top with another density fill.

Returning to the main image, I needed to set up the background. The sunburst is yet another density fill, this time drawn with the aid of the solid polygon function. To access this I hit line-draw twice. With the colour range set to go from bright orange to deep purple and Density Fill switched on, I activated the Grid and outlined the sunburst shape.

One click on the right-hand mouse button and – a few seconds later – there it is. The background that this produced was a little gloomy, and in need of brightening globally. The Gamma Curve requester (labelled LUT in TVPaint v1.5) has two main functions. By using the right mouse button to slide a spline curve about, it is easy to modify the brightness of either the red, green, or blue – or any combination of the three – components of the image.




The Cycle menu for multicoloured densities




The Density menu

By using the left mouse button, posterisation can be achieved, again via the RGB components of the colours onscreen. Finally, I settled on increasing the red a little in addition to brightening up the whole background, to add a bit of warmth.

Having roughly sorted out essentials like composition and backgrounds, it is time to divide the image into planes – each area of the composition can be worked on separately as a brush, allowing repositioning of details later on.

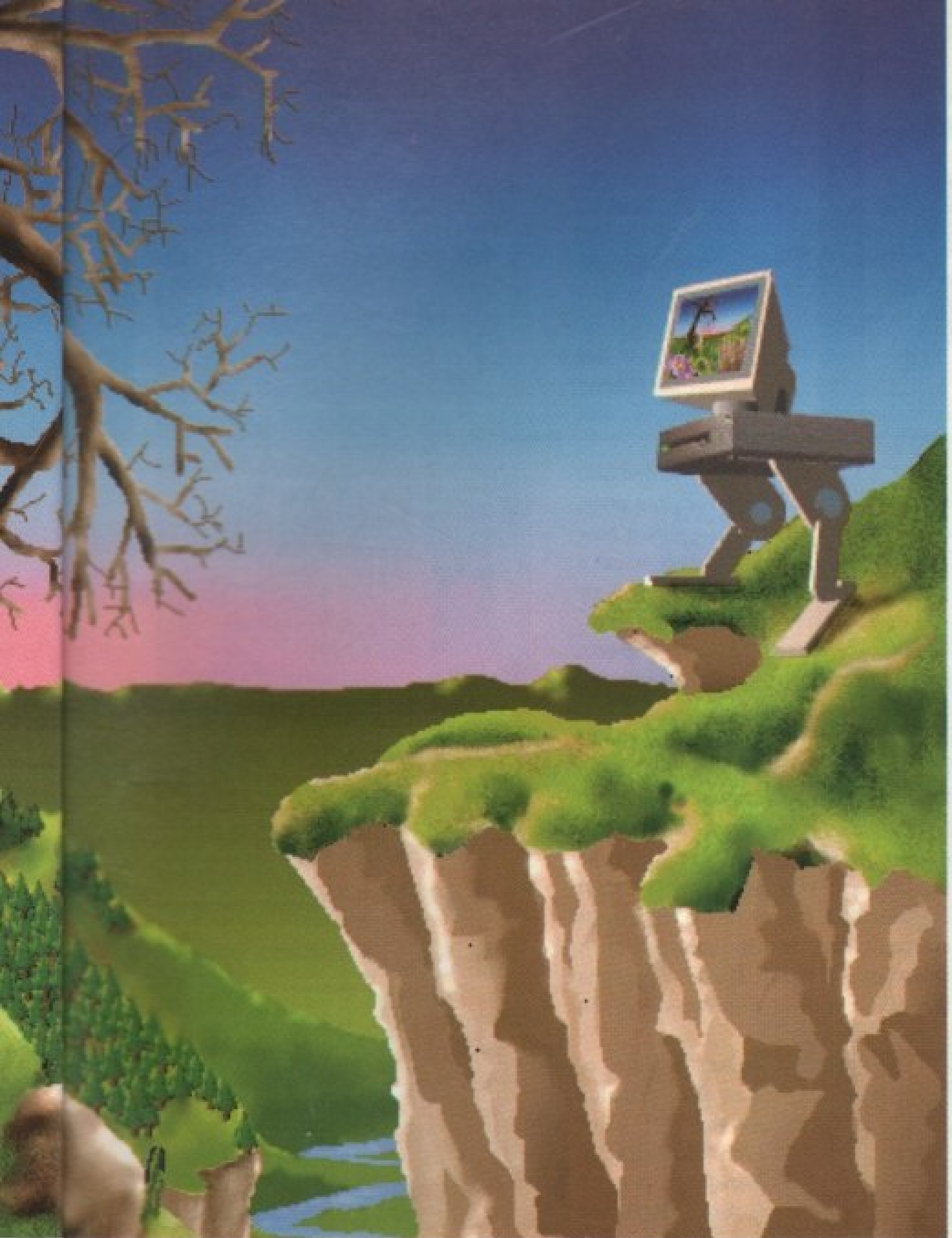
I find this method saves hours of careful cutting out and artworking (trying to make the brush look less like a brush and more like part of the composition). It simply means that the background areas are already there under the brushes, and if I need to move anything, I don't suddenly find a nasty gap in the image.

I tend to work from background forwards, so the next element to look at is the midground. In the Amiga screen image – the landscape – this is a hillside and some trees. Strangely enough, the hillside is a density fill, this time covered with dozens of small trees. I drew a tree in Magnify mode, which allowed precise control over anti-aliasing and highlights, and cut it out. Working from the top of the hillside to the bottom (to make sure the trees nearest are positioned over those already placed) I covered the hillside.

The foreground tree, rocks and grass are all created with essentially the same technique. There are a number of ways in which the various functions can write to




The main menu showing all primary functions



the Harlequin's screen. These are Colour, which uses the currently selected palette colour; Smooth, a softening function; Blur, a coarser version of smooth; Smear, that produces an effect uncannily like mixing paint; Shade, for increasing and decreasing brightness without changing the colour.

Continuing the list, Trans is a "rub-through" effect, allowing a spare screen image to be revealed on the work screen, via airbrush or cutout. This option only appears in the menu when enabled by selecting a drawing mode that can use it. Colourise changes the colour but not the brightness, and Dithering is extermely useful for creating textures.

The tree, rocks and grass are initially ➤



*Semi transparent wings render very, very slowly*

# The equipment used

In order to make use of very large 24-bit brushes and multiple spare screens, the A3000 that I use has been expanded to 16Mb of RAM, enough to run TVPaint and Real 3D Turbo concurrently.

The frame buffer I'm using at the moment is an Amiga Centre Scotland (ACS) Harlequin H4000 32-bit card fitted internally. This is organised into a a number of "overlays". These can be visualised as a number of image layers laid upon each other to form the final image. How these hardware options are used is up to the user – and the software being used.

Apart from some clever hardware tricks, this comes down to two output overlays. The 24-bit display itself is capable of displaying 16.7 million colours at once, which is nonsense as there are only 525,000 or so pixels on the screen at any one time – up to a resolution of 910 x 576. However, each pixel *could* be any one of 16.7 million colours).

## Semi-transparent images

The second overlay is an 8-bit "alpha channel" which is output as a separate signal and can be used with a device called a "Linear Keyer". The 8-bit alpha channel overlay can then be used to select from 256 levels of transparency when combining an external image with the Harlequin's output signal (for each pixel of the display).

I know this sounds complicated, but in effect it means that the Amiga can create so-called "soft-edged" masks and semi-transparent images for genlocking over video.

TVPaint fully supports the alpha channel, and can even use it as a 'soft' stencil – in other words, images can be passed from the work screen to the spare screen via the alpha channel, allowing variable transparency stencilling within the package. This is one way to create the semi-transparent effect illustrated on the cover image.

TVPaint has two major weaknesses. It can – as yet – only use the Amiga bitmapped fonts for text, and the text editing facilities are very poor. The latest version does support ARexx however, so a text editor could be implemented by anyone with knowledge of the ARexx language. This means that although the frame buffer can operate at PAL resolution (768 x 576 – the same as a TV) there is not enough information in the Amiga fonts to produce smoothly curved edges on lettering. This is because lettering tends to have a lot of curves, which means that the result appears little better than DPaint on the Amiga's standard display.

## Edge corruption

Vector fonts are not stored as image data like "bitmap" fonts – Bitmap simply means a map of bits where each bit is a pixel. The lines and curves are stored mathematically, so that the font can be resized to any size, whilst retaining the perfect curvature of the lettering. This means that TVPaint's prodigious anti-aliasing power can be used to full effect, producing broadcast quality text displays on the Harlequin. I hope Tecsoft complete the update soon...

The other problem with TVPaint is with resizing. It has no perspective manipulation, and simple planar resizing (x and y axes only) can cause noticeable edge corruption (I rarely use this function). For example, if I draw an anti-aliased solid circle, it looks lovely. The edges are smooth, and not in the least jagged. Then I cut the circle out, halve its size, and lumps appear all around the circumference.

Cut-outs containing few edges – textures and the like – seem to work well. This is a problem excusable in DPaint as it is limited to the available palette colours when resizing, but on a 24-bit display it should be possible to interpolate (recompute) the brush to provide a reasonable result. DPaint IV, with HAM graphics and perspective manipulation, does a better job with only 4,096 colours.

## Beautifully smooth

This isn't quite as problematic as it may sound. With 16Mb of RAM, as I said earlier, I can run TVPaint and Real 3D concurrently (It may be worth pointing out at this stage that Real 3D version 1.4 supports 24-bit texture maps and can render directly to the Harlequin, though the bug-fix that allows this function to work properly hasn't arrived yet...).

This means that images can be created in TVPaint, imported to Real 3D as texture maps then mapped onto any object's surfaces, moved around in wireframe perspective, and re-rendered. Rendering this sort of image usually takes 10 or 15 minutes, so I pop out for a coffee, and return to a beautifully smooth, jag free image that can easily be reloaded as a brush by TVPaint.

Though a little slower than it could be, perspective manipulation with Real 3D is immensely flexible – objects, surfaces and their texture maps can be manipulated in limitless ways unavailable in planar paint packages – in fact, this method produces results comparable to many broadcast computer graphics systems, though in an environment costing a fraction of the price.

drawn as polygons of flat colour. Then, in a similar colour, I mark where I want the the highlights and lowlights that will give the rock its form. Finally I use the airbrush in Shade mode to alter the levels of brightness of the flat colour, and dither it to create a rough texture.

The Airbrush facility can use any of the painting options. Operating in – almost – real time, it is certainly fast enough to be thoroughly useful. It is one of the most dramatic features of the package – I frequently use it to impress people when demonstrating the Harlequin.

It can be operated by most of the drawing options like circles and lines. There is also a useful spline drawing feature for those occasions when a freehand airbrush just isn't fast enough to create smooth curves.

You may notice that the small Amiga-creatures in the foreground have the landscape image as their displays. I achieved this effect by simply saving the image so far as a 24-bit texture map for Real 3D to render on to the Amiga screens. The earlier versions of the image show the flower as magenta, but red looked a lot better and the final flower with its bee is an example of the Colorize function being used to change the colour of an area of the screen without disturbing its brightness, thus retaining the lighting as it was originally rendered.



The sadly deficient text can be improved greatly by the addition of a few airbrushed highlights to the letters (after masking the surrounding area with a stencil – it is in this manner that television graphics designers make text look metallic.) Type in some mono text and mask around it, then simply airbrush a few dark diagonals.

The jagged edges become less obvious, and the text looks metallic. The spline drawing function could also be used to trace airbrushed lines onto the text, and by following the outlines of the lettering down one side of each character, it is relatively easy to make the text look shiny.

## Display power

Many of TVPaint's functions are similar to DPaint, and this helps when getting started with the package, though the increased display power offered by the Harlequin makes the effect of some of the functions actually quite different to their DPaint counterparts – this was quite confusing at first.

For example, getting used to the way in which anti-aliasing is implemented was slightly confusing as some of the functions didn't seem to use it on v1.4, though v1.5 is much more complete, and everything produces clean, smooth edges when anti-aliasing is switched on.

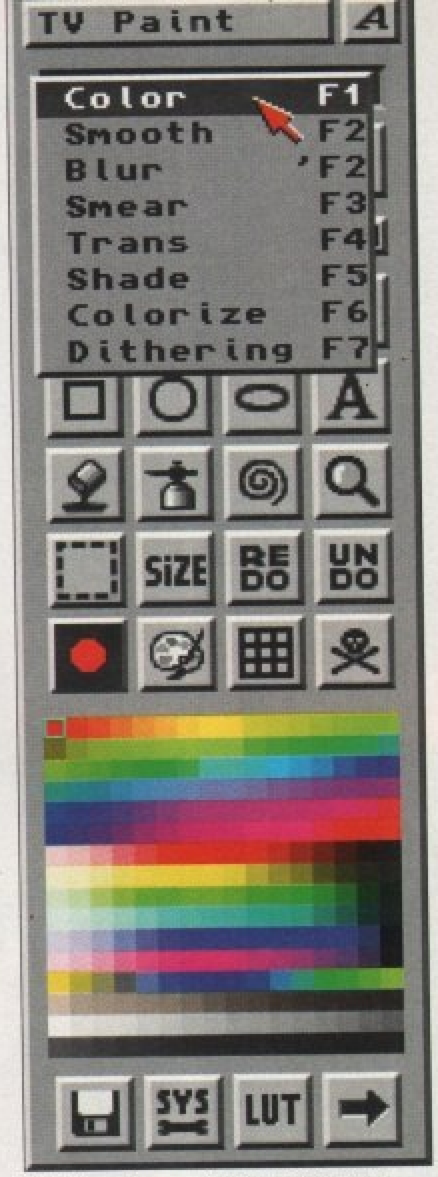
The next step is to decide which objects can be artworked and which objects would look better if solid modelled. The rocks are a case in point, and could have been created as models, though I felt that the lighting would have taken too long had I modelled them in Real 3D. I began modelling with the small Amigas (with legs) that inhabit my landscape.

Real 3D allows me to create primitive objects like cubes and spheres in a single operation, without worrying about how many polygons the surface needs. It uses a similar technique to the vector fonts – by storing the centre point and a radius, every sphere created this way will always have a smoothly curved surface, no matter how you manipulate it.

In addition to this, Real 3D allows objects to be combined using a full set of logical operations – And, where the two objects' volume of intersection becomes the resultant object; And Not, where the second object cuts the intersection from the first object; Eor, where the two objects are combined, and the intersection is removed; and finally; Divide, where the first object is divided in two along the plane of intersection.

These operations – called "Boolean" or logical operations – can also exchange surface textures with the With Paint extension (And Not With Paint, etc). So, Amigas with legs – thankfully I've got a digitised picture of an Amiga 3000, and the simplest way to make an Amiga is to create a couple of cubes that are about the right shape and orientation, and cut up my digitised image into some texture maps.

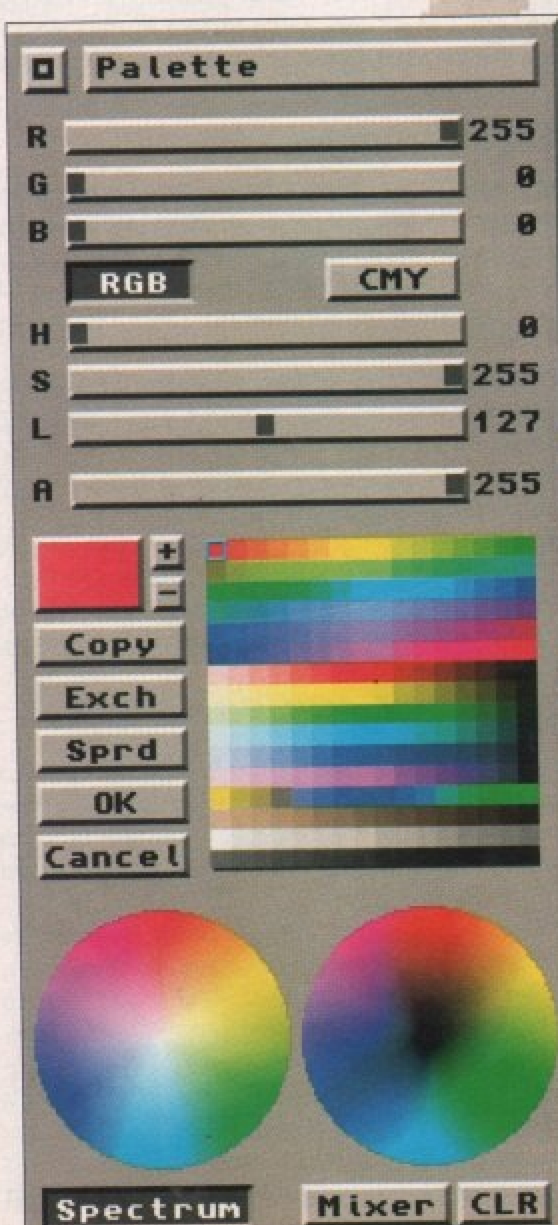
These can be incorporated into custom materials in Real 3D, applied to the cubes, and positioned on their front surfaces. A brief look at the wireframe allowed me to orientate the Amiga model to make it fit in the image. Now it's time for the lighting.



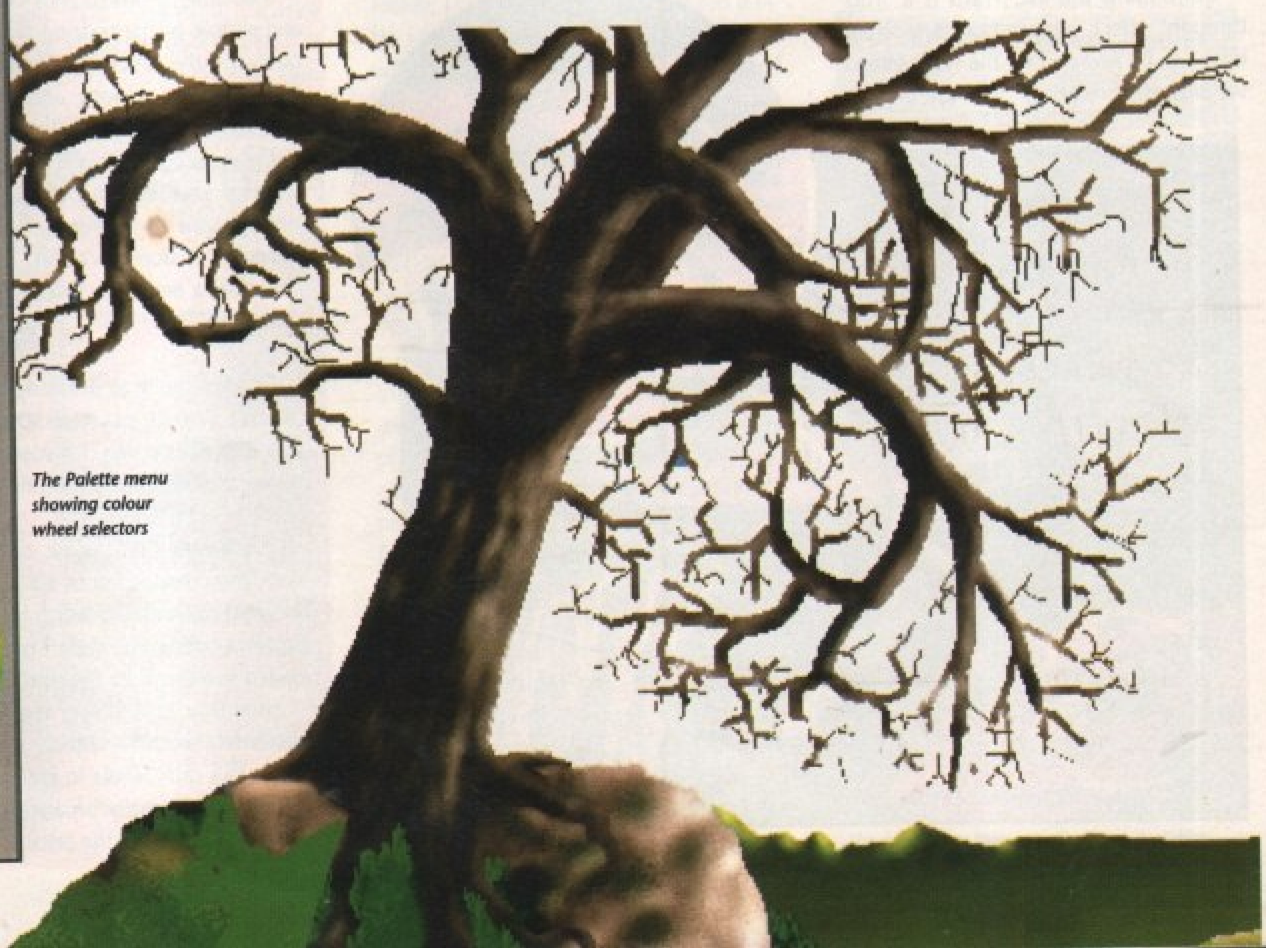

*This is the main menu showing painting types*

Lighting solid models is possibly more complex than real photographic lighting. This is primarily due to the fact that lamps can only be placed in the tri-view mode. This consists of three windows – (hence tri-view) – displaying a plan and two elevations of the 3D model scene.

Visualising the possible effects of a lamp in this two-dimensional mode is very diffi- ➤




*The Palette menu showing colour wheel selectors*



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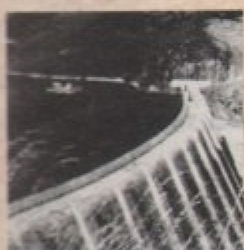



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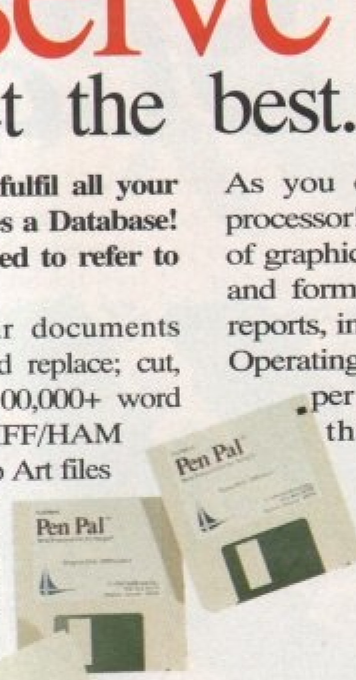
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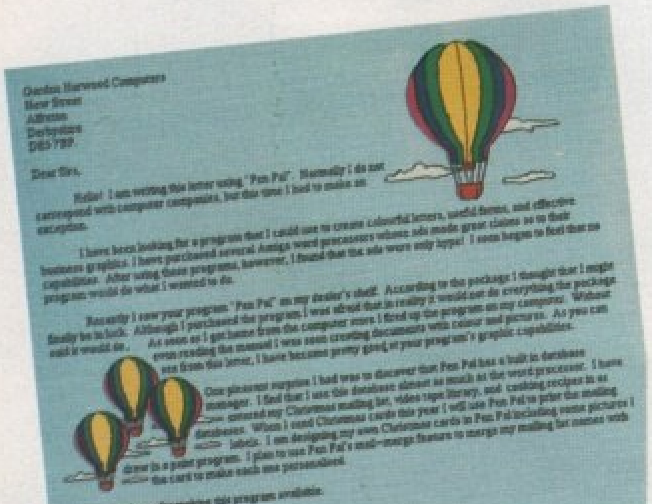

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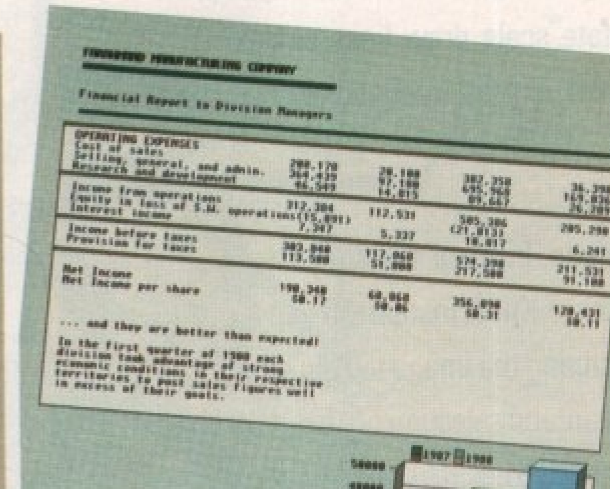
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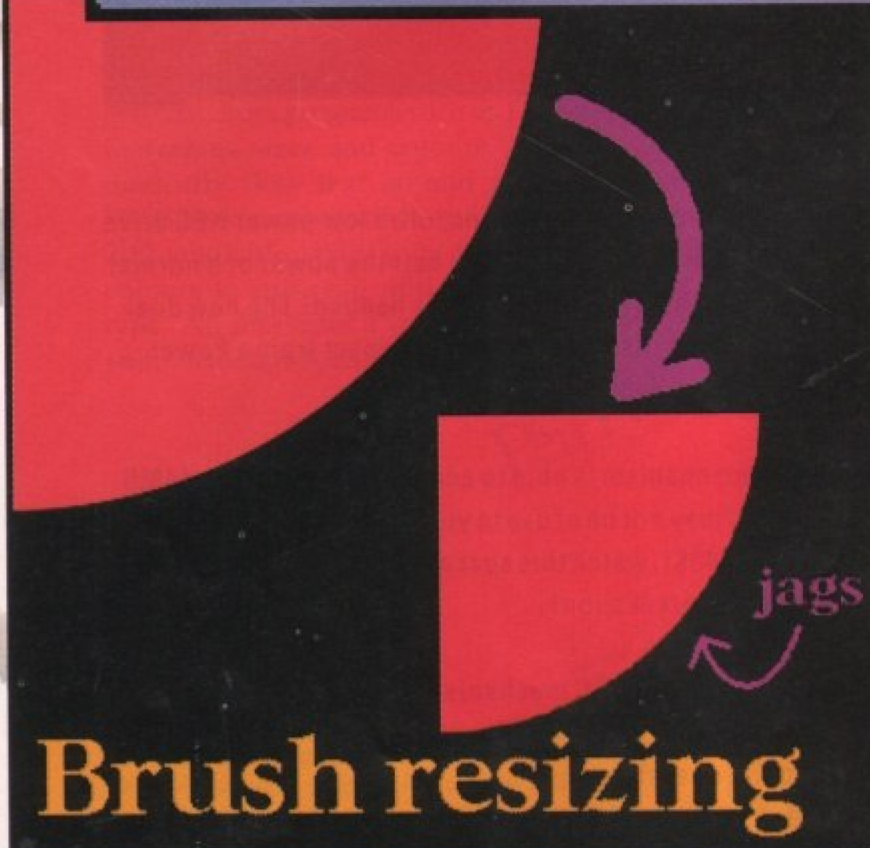
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*An example of airbrushed text, with a density background*




*The edge of the circle becomes corrupted when resized*

➤ cult, and when the object must be included in an artworked scene, the lighting must be precise enough to make the object "fit" with the surrounding image. Several test renders are usually required, and Real 3D's Fast Rendering mode is extremely useful for this.

## Composition

Once satisfied, I rendered the image in IFF-24 mode directly to the hard disk. After this, images can be loaded as pictures or brushes – depending on their size more than anything else – and retouched prior to incorporation in compositions. I always save the retouched brushes separately to aid repositioning later, should I wish to change the overall compositional layout.

Having built some of the objects for the landscape image, filled some areas of block colour, and artworked a few details, I'm now ready to compose the first rough image so far, by positioning all the various brushes over the background gradient fills. It still looks very rough at this stage – some of the brushes have distinctly jagged edges, and the horizon doesn't look nearly soft enough, but I can knock it back by airbrushing with the Smooth option when things are a little more complete. The landscape needed something in the foreground. Things looked a little plain, so I figured that a flower with a bee – of sorts – sitting on it might appear neatly in the bottom left-hand corner.

Real 3D version 1.4 has some other very useful functions that 1.3 lacked, in the form of a new menu entitled Freeform. This menu includes a complete suite of point editing functions, and anyone familiar with the Sculpt Animate 4D editor will welcome the new facility.

This function creates objects called "meshes" that are defined – usually – by two curves made from groups of straight lines subdivided by vertices. These are the fundamental element of solid modelling on computer systems.

By creating a rectangular mesh with 20 vertices on each side, and using the point editing functions Bend and Smoothen to deform the rectangle selectively, I built a petal for my flower. Simply copying and rotating the petal mesh produced eight petals, which when accompanied by a flattened sphere for a centre made a usable flower. Now for the bee...

The bee was a problem. It has wings, and wings are transparent. Transparency is a "heavy" function in Real 3D in the sense that it uses lots of processor time. Real 3D is a ray-tracer, which means that it renders its images by calculating the paths of simulated photons in order to generate the picture.

## Light fantastic

This is not so much of a problem as it was – every new computer is faster than the last, and the A3000 is no exception – but to allow for transparency means that the software has to calculate for some photons to be reflected and the rest to pass through the glass, with diminished intensity. This takes some hefty maths, so the rendering of transparent surfaces takes a very long time indeed.

To give you an idea, it took the A3000 running Real 3D Turbo four and a half hours to render the flower with the bee (and its wings) at a resolution of 384 x 288 pixels. To be fair, the level of anti-aliasing was also set at maximum to ensure the cleanest result possible (no jags), which also takes plenty of calculation (256 x 256 times oversampling).

The bee itself was built with a Tools menu function called Lathe2, which allows a central axis to be defined, and then curved primitives to be added along its length, forming a single compound object. This was bent so that the characteristic bee shape was more obvious.

Next I added a couple of spheres for eyes, circular tubes for legs (another Tools function) and antennae. The wings were constructed from a couple of irregular polygons.

In Real 3D, an object's surface is defined by its Material. Materials can be custom built, and control the texture mapping, reflectivity, transparency, and bumpiness of an object, or group of objects. It was in this manner that I created the striped abdomen on the bee.

By first running DPaint, using it to make a brown and yellow striped square (which I saved as an IFF brush into the texture map directory of Real 3D) and then quitting Dpaint to return to Real 3D, I created a material called Stripes that used the texture map. I then selected the rear abdomen object and used Modify Material on it. Modify Painting subsequently allowed me to position the stripes accurately.

All that remained was to position the lighting so that it fitted more or less with the rest of the image. Three light sources were used – a large bright Lamp to provide highlights and shadows, an overhead Lamp to brighten the whole scene, and an in-fill Lamp from the viewpoint to prevent the flower and bee becoming a silhouette.

The one remaining task was to piece the brushes together and Smooth their edges in TVPaint, composing the final images. AC

## Does the Amiga have a graphic future?

Overall, the Amiga is on the verge of being a feasible option for low-cost professional graphics. The Harlequin badly needs a frame grabber, and most of the options available today simply don't do it justice. I recently tested the Rombo digitiser, and the Progressive Peripherals Frame Grabber. They're great products, but they simply aren't up to the display quality of the ACS Harlequin.

The computer graphics market is about to undergo an explosion in the same order of magnitude as the home video market seems to have done – soon, perhaps even the A500 (or its successor) will achieve that magic display resolution – broadcast quality. Things like HAM-E come close, and the cost of entry level 24-bit systems is falling all the time.

Who knows, in a year from now, we may even see home graphics systems ready to plug into your living room TV, that can actually work at broadcast resolution – ironically at about the same time as the professionals begin to take High Definition TV seriously.

This is an exciting time to be involved in the Amiga's development, with CDTV, DCTV, 24-bit, and the silicon itself, from which all microchips are made, at last becoming cheaper. One thing is for certain – the Amiga is about to break its mould, and anyone labelling it "simply a personal computer" is about to get a shock.

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# Wannabees

**Paul Austin jams with the Amiga's latest band-in-a-box**

Making music is merely a dream for most of us, something to imagine as we play those elusive chords on the neck of a tennis racket or wail into a mike that doubles as a hairbrush.

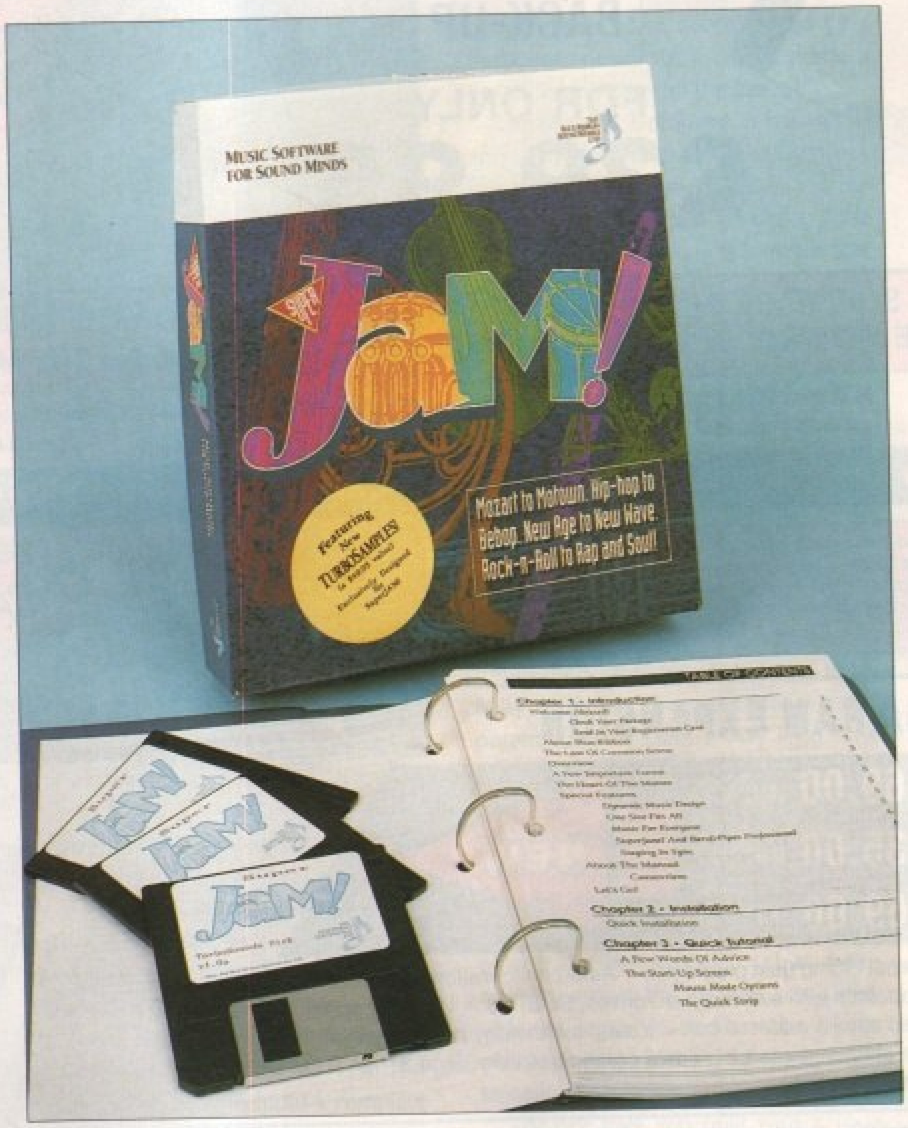
Now such fantasies can become more real than ever with the help of the latest release from the makers of Bars and Pipes Professional. Blue Ribbon Soundworks have made a very impressive attempt at providing a number of things that the average musical wannabee sadly lacks and yet desperately needs.

First and foremost comes talent. Obviously, no software in the world can actually affect your abilities, or lack of them, but it can magnify what little you have while automating the rest of the production to suit your style.

A close second to a lack of talent is the need for some partners in crime – drummers, guitarists, keyboard players and so on. Here again the software supplies the goods in the form of five individual musicians who play their particular instruments in the style of your choice while following predefined chord progressions, adding support to your solo efforts.

Lastly comes technique. If you can barely play chopsticks but desperately need some jazz, a suitable style is ready and waiting. Simply select the one you want and your backing band strike up a tune to suit. All you need do is load a suitable chord progression or add your own, then play a few solo notes to add a designer melody...

I'm sure many of you are thinking exactly the same as I did – "Well whoopie, how original, someone's managed to transform an Amiga into a Bontempi". To be honest, although it does sound a little like that, there's a lot more to Super Jam than simple auto-accompaniment, as you shall see...




## Identical

If you read the Bars and Pipes Pro article in the February issue you'll recognise the Super Jam interface instantly, as it's virtually identical in its basic layout. As you might expect both packages work perfectly together, given sufficient memory.

If you're short on space or perhaps B&Ppro, don't worry – Super Jam is happy to work with anyone and will save its creations as a standard Midi file ready for importation into any compatible package.

On loading the package you're greeted with perhaps the two most important windows in the system. The less conspicuous of the two is the "Quick Strip" which covers the menu bar and works in a similar manner, allowing access to all of Super Jam's windows and options.

Second, but perhaps more important, is the keyboard window. This is where you spend most of your time, trying out new chord combinations or practising solos. It's here more than anywhere that inspiration is born or perhaps cloned. Along the top of the window are a series of LEDs which display exactly who is playing what, so you can keep track of your backing band. Beneath the LEDs lurk the windows command buttons. These allow you to add and remove styles and chords as well as define whether you play solo or orchestrate the band's performance.

You can also set the key and tempo, organise the band, record a section of music, add a fill, play a selected style or insert specialised or designer chords to the keys of your choice.

Organising the band is perhaps your primary concern before any performance. After clicking on the band icon a window appears complete with a list of the six members, what they're playing, whether it is internal or Midi, channel selection, patch number plus the octave and volume settings.

Clicking on a specific member's icon followed by a speaker will produce Jam's own sample editor which displays the sample assigned to that particular musician. If no sample has been assigned you can load the Turbo Sample of your choice or convert an existing IFF. As you can see from the screenshot, the editor is very comprehensive and easily on a par with any standalone editing software on the machine. In short, if you have a sample, the editor will almost certainly create the sound you want thanks to a whole range of effects and processing options. It's impossible to go into further detail due to the usual lack of space, but rest assured that sample editing isn't a problem.

Selection of instruments and output methods is completely mouse driven with samples and patches playing on demand to make selection as simple as possible. Sliders and arrows move through patch lists, adjust volumes, select channels – in fact you can complete an entire piece without touching the keys, whether they be on the Amiga or an external synth.

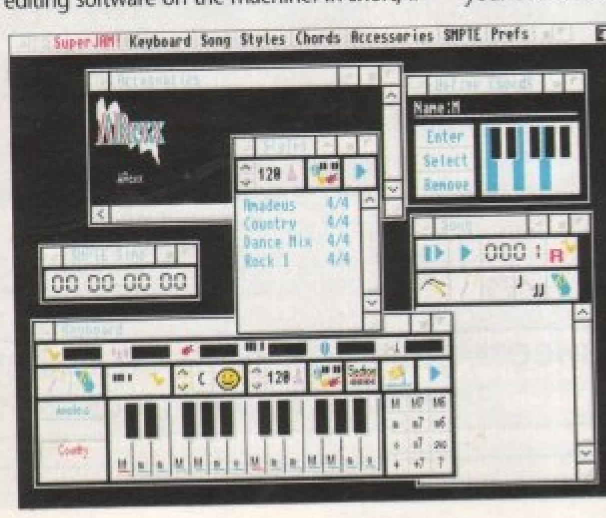
Once your musicians are suitably equipped, the next task is to select a style in which they'll play. Up to four separate styles can be stored on the right side of the keyboard and selected as required, even during a performance. Now the band knows what to play, but what about you?

## Tone deaf

Fortunately the tone deaf are catered for. If you examine the keys you'll see a selection of letters on various notes which means that, in this signature, those are the appropriate keys to play, being member notes of that particular key. They will produce either major, minor, diminished, augmented or seventh chords.

This may sound confusing but it means that if you select these notes when constructing chord progressions or solo runs you'll never go out of key – it's that simple. If you want, you can instruct the software to create the most suitable chord for any key on the keyboard. But If you're new to the business, it's wise to take some advice from the software.

If all you could do was play a selection of the same chords over and over again your creations would soon become just a tad predictable. So to add a little spice to your sound a selection of weird and won-




*A selection of Super Jam's option windows. A touch of déjà vu for B&Ppro fans*

# in wonderland

## The internal choice

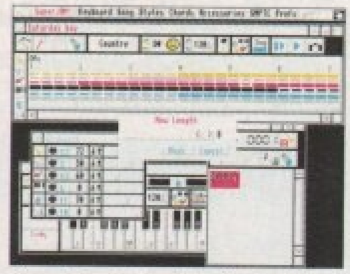
Aside from Super Jam's Midi features, there's a whole section of the software devoted to the Amiga's internal sound. Obviously with the normal limit of four sounds at any one time, Super Jam's six band members would normally be in rather a tight spot.

To avoid muting the odd member, the authors of Super Jam have created TurboSound technology which manages to produce between six and eight simultaneous sounds on a one meg machine, expanding into the low 20s given the assistance an accelerator board.

With its new multi-timbral option the Amiga can – in theory – keep pace with the Midi alternative. Unfortunately this isn't quite the case, because the number of sounds can vary depending on the strain applied to the system, and the conversion from a normal IFF to a TurboSample does appear to degrade the sound.

The final nail in the coffin is that the software's output is strictly mono. And when I say mono, that's exactly what I mean. The actual sound only appears on one channel. OK, playing the same track through each speaker wouldn't enhance the performance much, but it certainly would make listening a much more comfortable experience.

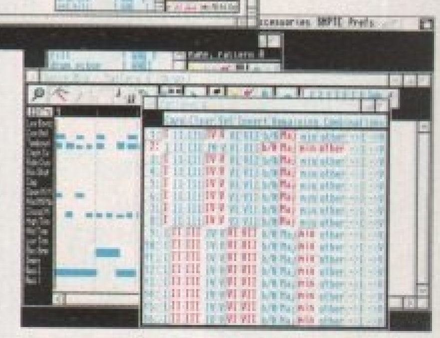
In general I must admit to being less than impressed with Super Jam's internal features, but if you're thinking of using the internal sounds as a stop gap, they're OK. Once you've mastered the program and saved up the necessary cash, moving on to Midi is strongly recommended.



The section window where the would-be composer compiles his or her creations...



Editing the performance of individuals, either before or after they play their part in the making of a masterpiece



Making a style all your own. It's not for the faint-hearted or musical beginner

derful chords are available on the right of the keyboard. If the chord you're after isn't in the present list you can create it from scratch or modify an existing one via the chord window, adding it to the selection.

At this stage all the essentials are in place – the band have their instruments and they know the style and the chords you want. It's here where the section icon comes into its own. Like all musicians, Super Jam builds its songs from verses, choruses, middle eights and so on.

### Requesters

Selecting the section icon invokes two requesters – one to name the new section and another to specify the number of bars. Once set, the section window appears complete with a coloured strip for each musician. These strips run the entire length of the section and can be either active or passive, determining whether the musician plays or not.

You can either play chords live or enter them via the mouse. Personally I found the mouse much easier. Clicking above the track immediately opens a miniature keyboard from which you select the root note. Once selected, a scrolling chord list appears, prompting you to make your selection.

Now you simply sit back and relax while the band plays an ever-changing performance, leaving you free to wait for inspiration or join in as the soloist. When you're happy with the arrangement, clicking on the camera icon selects the snapshot option which captures the music each time the section plays. Once you switch the snapshot off, that particular rendition is captured for posterity. A lock bar runs beneath each bar in the section with which you can isolate the bars you really like and re-record on others until you achieve the perfect performance.

If you're generally happy but want to make a few minor alterations, clicking on the relevant icon will produce a graphic editor complete with the particular score performed by that band member.

Functions available include erasing, moving, stretching, volume adjustment – in fact all the editing features you'd associate with a standard graphic editor with the exception of blanket editing (as all editing happens on a single note basis). For the power of cut and paste you'll have to invest in a dedicated sequencer such as B&Ppro or KCS.

The only real fault I found with the song construction section was a tendency for the odd glitch as the software finished one section and moved on to the next. It's here where owning a decent sequencer could make all the difference, offering a method of fine-tuning your creations.

If you don't want to waste time writing sections, a whole host of classic chord progressions come with the software along with a selection of examples, not to mention the hefty list of styles. Because of the extensive support you can either experiment and attempt to create original work on the foundations offered by the software or sell out completely and rely entirely on the built-in examples – the choice is yours.

To sum up, Super Jam has its ups and downs, with the internal sound handling definitely one of the latter. On the other hand, there's the Midi element which more than makes up for the shortfalls of the internal output.

The only other annoying feature was the program's unwillingness to install on the odd WB2 machine. If you have any problems, don't hesitate to contact those friendly folks at Zone for a replacement.

If you're working in a commercial environment that regularly needs good quality elevator music, it's a godsend. Or alternatively if you're looking for a way to learn more about music it's an ideal way to do it.

Those looking to create the next number one in a matter of moments will be disappointed. Nevertheless I'm sure that many a professional will have this extremely handy composing tool hidden at the back of a hard drive, ready to add inspiration to a tired imagination. AC

**Ease of use**

**Implementation**

**Value for money**

**Overall**

Super Jam is available from Zone distribution on 081-766 6564. Price £99 plus £3 p&p.

## Why Jam beats the Bontempis

It's worth spending a little time explaining some of the fundamental ideas underpinning Super Jam, and some of the power features hidden in the bowels of the package.

If you've read the passage dealing with song construction, you might well be wondering why you'd want to use a snapshot to capture a particular performance. Well, as you may have guessed, Super Jam never plays exactly the same performance.

Each of the six musicians can play up to 16 variations within a specific section. As a result there are a possible 16,000,000 combinations every time a section plays. Difficult to believe, but I assure you it's true. If the band are left to their own devices playing the same section over and over again it's easy to spot the variations as the mechanical musicians do exactly as the title suggests.

Just like a real band, the members all know how to play a style because they've been told. All they need to know is the chords. Once told they shuffle their digital digits to the chord in question and improvise the selected style, just like real musicians.

As you can imagine, the style is all-important. Any style can be adjusted prior to recording to remove annoying tendencies, and in fact complete styles can be built from scratch. Once complete the band instantly know what you want and set about improvising around it. However, designing styles is a tricky business, best left to the experienced user who has a reasonable knowledge of musical structure.

Having said that, it's an impressive feature that could save thousands of pounds and hours of studio time for the composer willing to master his electronic counterparts. With a little effort you can literally teach the machine to think as you do. Bassists play original lines you instantly like, while drummers add your favourite patterns without any prompting. Wonderful...

CARTOON CLASSICS MEGA 31*

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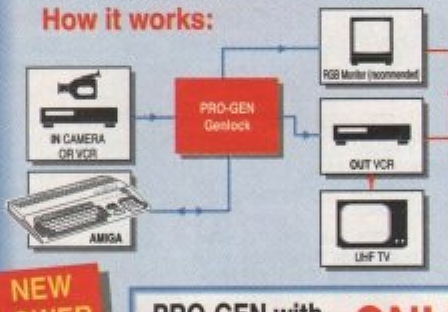
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- ☆ 1Mb, (880K Formatted) Capacity
- ☆ Enable/Disable Switch,
- ☆ Throughport
- ☆ Access Light
- ☆ Compatible with Amiga 500/1000/1500/2000/3000 and CDTV

**£57.95**




NOW SUPPLIED WITH A FREE 3.5" DISK HEAD CLEANER for optimum reliability

BLACK CDTV COMPATIBLE VERSION AVAILABLE NOW!!!

**NEW!** GVP 52-105Mb HARD DISK DRIVE WITH MEMORY EXPANSIONS OF UP TO 8Mb.

- ☆ Capacities of 52 or 105Mb available
- ☆ Connects to sidecar bus on L/H side of A500/A500 Plus
- ☆ Autoboots with Kickstart 1.3/2.0, boot enable/disable switch
- ☆ Sockets for up to 8 Mb of RAM expansion
- ☆ SCSI Port allows up to 7 other devices to be connected
- ☆ Supplied with easy to use software
- ☆ 2 Year Warranty Complete with dedicated PSU
- ☆ Mini slot for future expansion capabilities
- ☆ PC-AT Emulator planned to be available for 1992

GVP PRICES

| RAM SIZE | CAPACITY 52Mb. | CAPACITY 105Mb. |
|---|---|---|
| 0Mb. | £359.95 | £549.95 |
| 2Mb. | £429.95 | £629.95 |
| 4Mb. | £509.95 | £749.95 |
| 8Mb. | £699.95 | £929.95 |

Call for... UPGRADE PRICES!

## EDUCATION SOFTWARE

DON'T JUST PLAY GAMES WHEN YOU CAN LEARN WITH YOUR AMIGA TOO!

| | |
|---|---|
| **MICRO MATHS** - 24 easy to use programs for GCSE ('O' Level) revision or self tuition | £21.95 |
| **MEGA MATHS** - A 9 level step by step tuition course. For mature beginners, 'A' Level studies & Micro Maths users | £21.95 |
| **MICRO FRENCH** - GCSE French tuition or revision course. Covers both spoken & written French | £21.95 |
| **MICRO ENGLISH** - A complete programe of self-tuition up to GCSE standard | £21.95 |
| **PRIMARY MATHS COURSE** - Ages 3 to 12, Complete 24 Programme Course. | £21.95 |
| **SPELL BOOK** - Ages 4 to 6, Developed with the help of a Primary School Head Teacher to aid spelling skills. | £17.95 |
| **PROF: Hunts for Words** - With clues for Prof. and his young audience, children can hunt for words and complete a story. | £24.95 |
| **PROF:Looks at Words** - You direct Prof. around the screen searching for letters to complete the words. 17 levels of play. | £24.95 |
| **PROF:Makes Sentences** - Children help Prof. make up sentences by unjumbling sequences of words - great animation. | £24.95 |
| **PROF:Plays a New Game**- Comes with a story disk, audio tape, and an illustrated raeding book. | £24.95 |

## HARWOODS AMIGA 1Mb PRO-RAM PLUS

ADD MORE POWER TO YOUR AMIGA 500 PLUS WITH A FULL 1Mb. MEMORY UPGRADE!!!

- ☆ 1Mb. RAM expansion for the Amiga 500 Plus
- ☆ Gives a total of 2Mb. of RAM
- ☆ Easily fitted without any dismantling in the trapdoor expansion slot underneath Amiga. DOESN'T invalidate your warranty!
- ☆ Low power consumption 2 Yr Guarantee!

A GREAT NEW OFFER FROM HARWOODS

Only... **£44.95**

## 0.5 Mb PRO-RAM

- ☆ Compatible with Amiga A500 and 500 Plus
- ☆ Gives A500 a total of 1Mb Memory + Clock
- ☆ Gives 500 Plus a total of 1.5Mb Memory

Only... **£29.95**

# AMIGA SOFTWARE

**Music-X:** The ultimate software for professional MIDI sequencing. The software includes a configurable librarian and a synthesiser patch editor. All you need to recreate a song can be recalled from one performance file including sequences, MIDI routing, sync setup, keyboard maps & synthesiser or drum machine patch libraries. NEW LOW PRICES - £54.95 or just £74.95 with midi-interface!

**MIDI INTERFACE (5 Port):** In, Out, Through plus 2 switchable thru'/out. Includes cable. £24.95

**AMOS:** AMOS allows you to access the power of the Amiga with ease. 500 different commands make AMOS a sophisticated development language. The AMOS animation language allows you to create complex animation sequences. 300 page manual and over 80 example programs £49.95

**Amos Add on Modules:** (BOTH require Amos prog.)
Amos Compiler Amos 3D

BUY ALL THREE AMOS PROGRAMS FOR JUST £89.95

**SuperBase 4:** Most powerful database available for the Amiga.Combines the ease of use of Super-Base 2 with a versatile programming language so that you can tailor your data to your own specific needs for club/business/library records etc. £229.95

**Lattice C:** An ideal tool for the C programmer whether experienced or a novice. The best way to create applications for the Amiga.Fully supports Motorola chipset. Nearly 300 functions optimised to help the user write the tightest possible code. Includes screen editor. Most Amiga C books are based around lattice. (Requires either 2 floppy drives OR a hard disk drive) £199.95

**Deluxe Paint IV:** Latest version of the Amigas first, and still the best, paint and animation package, now including HAM mode. (1 Mb. minimum memory or more recommended) £79.95

**Vidi, The Complete Colour Solution:** Vidi with RGB Splitter, Frame Grabber & Digitiser. Grabs moving colour video into 16 grey scale frames (up to 16 frames in 1Mb. Amiga) and digitises from still colour video source in up to 4096 colours in less than 1 second! Requires home VCR or video camera for grabbing. Requires video camera or VCR with perfect pause for digitising. Now comes with Photon Paint 2.0 ABSOLUTELY FREE OF CHARGE!!! £179.95

**MASTERSOUND:** High quality "mono" sampler (best for sampling instruments etc.) £36.95

*THE ABOVE IS JUST A SMALL SAMPLE FROM OUR EXTENSIVE RANGE OF THOUSANDS OF SERIOUS, EDUCATION AND RECREATION TITLES.WE CAN'T LIST THEM ALL HERE SO PLEASE CALL US IF YOU CAN'T SEE THE PROGRAM YOU REQUIRE, IT'S PROBABLY IN STOCK!*

## Pen Pal V.1.3

**WORD PROCESSOR/DATABASE**

With Pen Pal you can mix text, 4096 colour graphics & data in ways no other w/p can! "It's handling of graphics is unsurpassed: Pen Pal is the only word processor I tested that will automatically wrap text round graphics..

**Amiga World, July '90**




**£79.95**

*PEN PAL complete WITH 512K Amiga RAM Expansion only...£99.95!*

*All our packs contain the new Amiga A500 Plus. (1.3 Amigas may still be available to special order, please enquire.)*

Enquiries & Order Line: **0773 836781**

Finance Facilities Available*
Please phone us for information and your personal application pack.

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FREE... Fully Tailored Dust Cover with all Dot Matrix Printers

# PRINTERS

**NEW FREE ACCESSORIES**

**All printers in our range include a standard Centronics/Parallel Port for direct connection to Amiga, PC's, Atari ST's, Archimedes etc.**

We supply a connection cable to YOUR computer — FREE
plus a Quality Dust Cover with ALL Dot Matrix Printers — FREE



When you are comparing our prices to others make sure that the same essential items are included eg. Printer Lead, Dust Cover, Postage and VAT etc.

**GORDON HARWOOD PRINTER STARTER PACK**
ALL our Dot Matrix Printers are supplied complete with...
- 200 Sheets of Continuous Printer Paper — FREE
- 100 Useful Self Adhesive Continuous Labels — FREE
- Amiga Printer Drivers Disk — FREE

**CITIZEN 120D+ 9 PIN MONO - Up to 120/25 cps — £149.95**
- Very reliable low cost printer with interchangable interfaces for Centronics/RS232/serial type (C64 etc.)
- Full 2 Year manufacturers warranty

**NEW FASTER STAR LC20 9 PIN MONO - Up to 150/38 cps — £159.95**
Replacement for our most popular Mono Dot-Matrix at a super low price
- Multiple font options easily accessible from front panel
- Excellent paper handling facilities
- Simultaneous, continuous and single sheet stationery
- 240 x 240 dpi Graphics

**STAR LC200 9 PIN COLOUR PRINTER - 185/40 cps — £209.95**
This is the one in our packs!
- 80 Column Dot Matrix
- 240 dpi - 9 Pin COLOUR
- 16K Buffer, 8 Resident Fonts
- Push/pull tractor & rear/bottom feeds
- Reverse paper feeds
- Micro paper feed, Max. paper width 11.7"
- Supplied with colour & mono ribbons
- Paper park with auto single sheet loading
- Programmable from front panel.
- 12 month warranty

**CITIZEN SWIFT 9 PIN COLOUR - 160/40cps — £219.95**
New super high spec 9Pin colour printer
- 8K Buffer 4 Fonts
- Push and pull tractor built-in
- Feed for labels/multi part stationery
- 240 x 240 dpi Colour Graphics
- Best text quality in our 9Pin range
- 2 Year Citizen warranty

**STAR SJ48 INKJET PRINTER — £249.95**
New super high quality bubble ink jet printer
- 64 Nozzle ink jet
- Emulates Epson LQ and IBM Proprinter for full compatibility
- Complete with AC adaptor
- Large 28K Buffer
- 360 x 360 dpi near laser print quality
- Optional Ni-Cad battery for mains free operation

**STAR LC24/200 24 PIN MONO - 220/55 cps — £249.95**
Mono version of LC24/200 Colour, same spec except for a smaller 7K buffer

**STAR LC24/200 24 PIN COLOUR - 220/55 cps — £299.95**
Colour version of the LC24-200 Mono.
- 80 Column Dot Matrix
- 360 dpi - 24 Pin MONO
- 30K Buffer (expandable)
- 10 Resident Fonts
- Front Panel Pitch Selection
- Push/pull tractor & rear/bottom feeds
- Reverse paper feed
- Paper park with auto single sheet loading
- Micro paper feed, Max. paper width 11.7"
- Supplied with mono ribbon
- Faster than the old LC24-10
- Extra font cartridges available
- Program from front panel, No DIP switches
- 12 month warranty

**NEW 24 Pin CITIZEN 224 COLOUR - 160/53 cps — £259.95**
Brand New, lowest cost colour 24 Pin printer, anywhere!
- 80 Column Dot Matrix with 4 Fonts
- 360 dpi - 24 Pin COLOUR
- 8K Buffer expandable to 32K
- Easy to use front panel controls
- Push & pull tractor feeds
- Complete paper parking facilities.
- Supplied with mono & colour ribbons
- Full 2 Year Citizen Warranty

**NEW 24 Pin CITIZEN SWIFT 24E COLOUR - 180/60 cps — £319.95**
Brand New, superb specification colour 24 Pin printer.
- 80 Column Dot Matrix with 7 Fonts
- 360 dpi - 24 Pin COLOUR
- 8K Buffer expandable to 32K
- Easy to use LCD panel controls
- Push/pull & bottom tractor feeds
- Complete paper parking facilities.
- Supplied with mono & colour ribbons
- Full 2 Year Citizen Warranty

**NEW FASTER STAR XB 24 PIN COLOUR RANGE XB24-200 & XB24-250 - 275/80 cps — £399.95 24-200 Colour — Wide Carriage £499.95 24-250 Colour**
These NEW top of the range Stars replace the XB24/10 & XB24/15, & offer the best possible quality dot matrix printing
- Exceptional print quality
- 4 x 48Pin super letter quality fonts
- 14 x 24Pin near letter quality fonts
- Buffer: 29K(XB24/200) & 76K (XB 24/250)
- 360 x 360 dpi Colour Graphics
- 12mths on-site warranty (UK Mainland)

**HEWLETT PACKARD PAINTJET COLOUR A4 INKJET — £599.95**
Our best quality full colour printer at a realistic price
- Parallel/Centronics or Serial RS232 I/F (specify with order, MAC option available)
- For presentation graphics/DTP, CAD and technical/scientific applications
- A full page of colour graphics in 4 minutes (typical)
- Non impact printing,
- virtually silent, 43dba
- Will print transparencies
- 12 Months on-site warranty (UK Mainland)

**STARSCRIPT - 4ppm POSTSCRIPT COMPATIBLE LASER — £1099.95**
A4 Laser Printer, will connect to PC, Amiga, Atari ST, Macintosh etc.
- 300 DPI, 2Mb. Upgradable to 5Mb.
- Emulations inc: HP Series II, Epson EX800, IBM Proprinter & Diablo 630
- Complete with "Starscript" (Stars postscript language emulation)
- Serial and Parallel Interfaces
- 12month on site warranty (UK Mainland)
- 49 quality fonts built-in
- Appletalk for connection to Macintosh
- Every desktop publishers dream

**SEE OUR LIST OF ACCESSORIES FOR BOTH STAR AND CITIZEN PRINTERS, ALL AT COMPETITIVE PRICES!**
*All the characters Per Second speeds quoted above are Draft/LQ at 10cpi*

# PRINTER ACCESSORIES

## CITIZEN PRINTER ACCESSORIES:

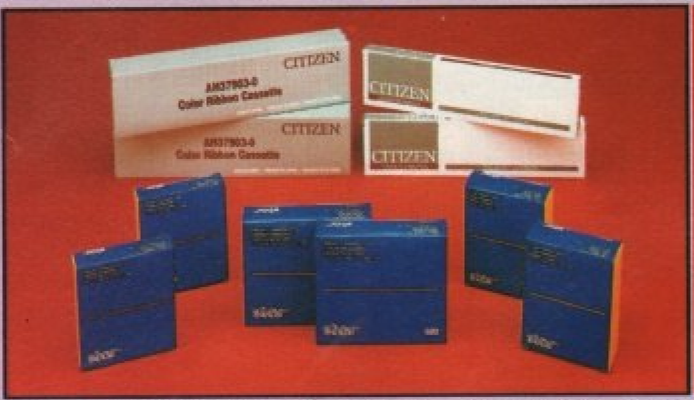
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|---|---|
| Citizen 120D+ Sheet Feeder | £69.95 |
| Citizen 120D+ Parallel Interface | £49.95 |
| Citizen 120D+ CBM C64 Serial Interface | £49.95 |
| Citizen 124D 32K Buffer | £13.95 |
| Citizen 124D Semi-Auto SheetFeeder | £39.95 |
| Citizen 124D Automatic Sheet Feeder | £79.95 |
| Citizen 124D Printer Stand | £24.95 |
| Citizen Swift 9 Semi-Auto SheetFeeder | £39.95 |
| Citizen Swift 9 Automatic Sheet Feeder | £79.95 |
| Citizen Swift 9 Printer Stand | £24.95 |
| Citizen Swift 9X Printer Stand | £34.95 |
| Citizen Swift 9X Automatic Sheet Feeder | £139.95 |
| Citizen Swift 24 32K Printer Buffer | £13.95 |
| Citizen Swift 24 Semi-Auto Sheet Feeder | £39.95 |
| Citizen Swift 24 Automatic Sheet Feeder | £79.95 |
| Citizen Swift 24 Printer Stand | £24.95 |
| Citizen Swift 24X Auto Sheet Feeder | £139.95 |
| Citizen Swift 24X Printer Stand | £34.95 |

## HEWLETT PACKARD PAINTJET PRINTER ACCESSORIES:

| | |
|---|---|
| Hewlett Packard PaintJet | |
| Black Ink cartridge | £25.95 |
| Colour Ink Cartridge | £31.49 |
| Single Sheet Printer Paper | £17.95 |
| Z-Fold Printer Paper | £15.95 |
| Transparency Paper: Pack of 50 Sheets | £52.95 |

## STAR PRINTER ACCESSORIES:

| | |
|---|---|
| Star LC-20 Mono Printer Automatic SheetFeeder | £74.95 |
| Star LC24-10 Mono Printer 32K Buffer £67.95 | £67.95 |
| Automatic SheetFeeder | £74.95 |
| Star LC-200 Colour Printer Automatic SheetFeeder | £74.95 |
| Star LC 24-200 Mono/Colour Printers 32K Printer Buffer | £34.95 |
| Automatic SheetFeeder | £74.95 |
| Star SJ48 Printer Automatic Sheet Feeder | £54.95 |
| Ni-Cad Battery | £39.95 |
| Star XB 24-200 Colour Printer Pull Tractor | £34.95 |
| Font Cartridges - Styles To Be Announced | £29.95 |
| 128K Centronics Printer Buffer | £89.95 |
| Automatic SheetFeeder | £114.95 |
| Dual Bin SheetFeeder | £429.95 |
| Star XB 24-250 Colour Printer Pull Tractor | £34.95 |
| Font Cartridges - Styles To Be Announced | £29.95 |
| 128K Centronics Printer Buffer | £89.95 |
| Automatic SheetFeeder | £174.95 |
| Dual Bin SheetFeeder | £469.95 |



**GENUINE CITIZEN & STAR REPLACEMENT PRINTER RIBBONS**

| PRINTER | PRINTER TYPE | BLACK RIBBON | BLACK RIBBON 'SIX PACK' | COLOUR RIBBON | COLOUR RIBBON 'SIX PACK' |
|---|---|---|---|---|---|
| CITIZEN 120D+ | BLACK ONLY | £4.95 | £24.95 | N/A | N/A |
| CITIZEN 124 | BLACK ONLY | £4.95 | £24.95 | N/A | N/A |
| CITIZEN SWIFT 9 | BLACK/COLOUR | £4.95 | £24.95 | £16.95 | £99.95 |
| SWIFT 24/24E/224 | BLACK/COLOUR | £4.95 | £24.95 | £16.95 | £99.95 |
| STAR LC10/20 | BLACK/COLOUR | £4.95 | £24.95 | £6.90 | £36.50 |
| STAR LC200 | BLACK/COLOUR | £6.95 ZX9 | £36.95 ZX9 | £12.95 ZX9CL | £69.95 ZX9CL |
| STAR LC24/200 | BLACK/COLOUR | £8.95 Z24 | £49.95 Z24 | £14.95 X24CL | £74.95 X24CL |
| STAR XB RANGE | BLACK/COLOUR | £8.95 Z24 | £49.95 Z24 | £14.95 X24CL | £74.95 X24CL |
| STAR SJ48 INK CARTRIDGE | BLACK ONLY | Also compatible with Apple Stylewriter and Cannon BJ10E Bubblejet | | | £14.95ea. |

# BOOK SHOP

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From unpacking your Amiga to creating your own icons, includes first use of basic and extras disk. NEW revised version covering workbench 1.3 and 2

**AMIGA BASIC INSIDE AND OUT - VOL 2 ABACUS BOOKS, — £18.95**
Definitive step by step guide to programming Amiga's in basic.

**AMIGA MACHINE LANGUAGE - VOL 4 ABACUS BOOKS, — £14.95**
Practical guide to learning 68000 assembler language.

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Guide to Amiga DOS & CLI. NEW Edition inc. WB 2.0 (includes Free Help Disk)

**AMIGA HARDWARE REFERENCE MANUAL-Addison Wesley, — £21.95**
Written by technical experts at Commodore Amiga Inc, USA... the people who designed your Amiga. Hardware level machine code programming at advanced level. New revision now also includes Kickstart 2.

**AMIGA, BEST OF TRICKS & TIPS Vol. 17, — £32.95**
A complete set of tricks and tips that enable you to do MORE with your Amiga and as simply as possible. (includes Free Disk)

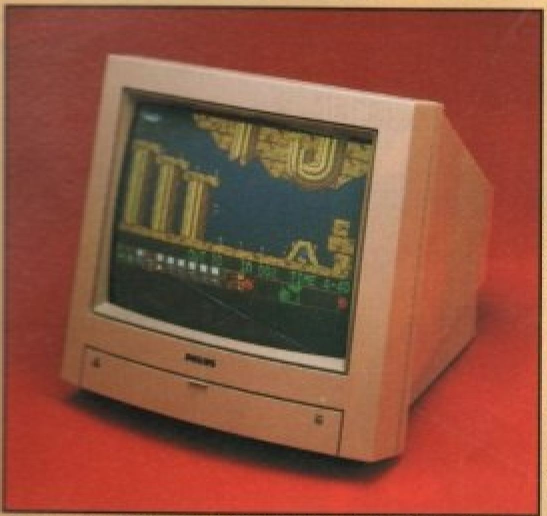
**GETTING THE MOST FROM YOUR AMIGA, — £9.95**
From Future Publishing, the producers of Amiga Format Magazine and fully updated for 1992 OR...
available with 2 HELP DISKS INCLUDED — £13.95

*Credit terms are available (subject to status) for most products: see our ordering panel at the end of this advert for full details*

NOW INCLUDING TEN FREE GAMES PACK TOTALLY FREE!

# MONITORS & MONITOR TV's

**Harwoods stock a complete range of both Monitors & Monitor TV's to give you your perfect solution to the type of display to buy.**



## PHILIPS CM8833/II
Stereo High Resolution Colour Monitor

The ever popular 14-inch Philips CM 8833 MkII. Its versatility means you not only get excellent colour graphics & text performance with a wide range of personal computers, but when connected to a VCR , you get an amazing 600 pixel TV picture.With the 8833 MkII, Harwoods give you the complete set up, to get you going straight away... Monitor, RGB picture and Stereo Audio Cables, Tailored dust cover, and a full 12 Months on site service warranty.

☆RGB/AD, TTL, Composite. Video & stereo audio inputs Can be used as a TV with VCR or Tuner Also as a Video Camera display monitor Retractable stand
☆Twin Stereo Speakers Headphone Jack Socket FREElead for your computer FREE 12 Month on site service warranty.

**THE MOST VERSATILE STEREO COLOUR MONITOR AVAILABLE**

**£249.95**

## CBM 1084S STEREO COLOUR MONITOR.
Commodore's Own Stereo High Resolution Colour Monitor with...
☆RGB/AI/TTL, Composite. Video/Audio Inputs Can be used as TV with VCR or tuner. Twin Speakers for stereo output Supplied with cables for A500, CGA PC,\C16-64-128.

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*It's important to remember that most TV Monitors, are still first and foremost televisions, meaning that their average 400 pixel tube display 50% lower resolution than a monitor) cannot be guaranteed to display 80 column text clearly without risking eye strain. If choosing a Television Monitor ensure it has the latest 2000 character tube capability, meaning it can handle the Amigas' 80 characters, by 25 line output clearly.*

**NEW!!! PHILIPS 15" FASTEXT TELETEXT REMOTE CONTROL 60 CHANNEL MONITOR TV.** BRAND NEW SUPERB DEFINITION PHILIPS MONITOR TV. IDEAL FOR AMIGA OR CDTV USERS, GIVING FOR THE FIRST TIME TRUE MONITOR QUALITY FROM A FULL FEATURE TELETEXT TV AT AN AFFORDABLE PRICE!!!. JUST LOOK AT THE FEATURES... Direct Scart Connector for Amiga, CDTV, VCR OR SATELLITE RECEIVER RGB/AD, Composite Video & audio inputs FULL TELETEXT FACILITIES (FOR THIS FACILITY EXTERNAL AERIAL SHOULD BE USED) Headphone Jack Socket FULL TWO YEAR GUARANTEE 2000 CHARACTER HIGH DEFINITION FST TUBE SUPPLIED WITH LOOP AERIAL REMOTE CONTROL FREE lead for YOUR computer *(IF YOU WOULD LIKE THE MONITOR TV IN OUR PACKS 2, 3, AND POWERPRO, AT NO EXTRA COST, TO REPLACE THE 8833/II, SIMPLY ADVISE US AT THE TIME OF ORDERING)*

ONLY... **£269.95**

10 FREE GAMES WITH YOUR TV OR MONITOR WHEN PURCHASED SEPARATELY (ie. These games are already included within Harwoods Amiga Packs 2, 3, & Powerpro...see details on pages 1 & 2 of this advertisement!!!)

# AMIGA ACCESSORIES

**MIDI INTERFACE (5 Port):** In, Out, Through plus 2 switchable thru'/out. Includes cable. — **£24.95**

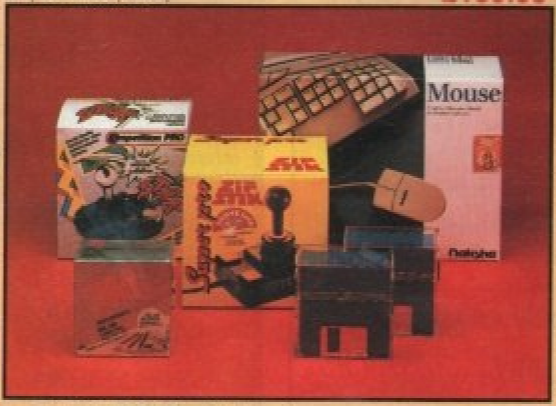
**Vidi, The Complete Colour Solution:** Vidi with RGB Splitter, Frame Grabber & Digitiser. Grabs moving colour video into 16 grey scale frames (up to 16 frames in 1Mb. Amiga) and digitises from still colour video source in up to 4096 colours in less than 1 second! Requires home VCR or video camera for grabbing. Requires video camera or VCR with perfect pause for digitising. Now comes with Photon Paint 2.0 FREE!!! (see Pro-Gen feture for full software details) — **£149.95**

**KCS POWERBOARD IBM PC EMULATOR** ☆Allows you to run many popular IBM PC compatible software titles on your Amiga or Amiga A500 Plus Hercules, CGA & Monochrome Video Support, Supports Both 3.5 Inch & 5.25 Inch Diskettes ☆Fits Into A501 RAM Slot, 8088 XT Processor, Clock/Calendar Included, Acts As 512K RAM Exp. When In Amiga Mode, Includes MS-DOS 4.01, Shell & GW-BASIC, DOS-Help, & On-Board Memory Supports A590 Hard Drive, Mouse Driver Software Included. — **£219.95**

**KCS POWERBOARD** AS ABOVE BUT WITHOUT: MS-Dos 4.01, GW-Basic, Shell, — **£189.95**

**NAKSHA 400dpi SCANNER** **£114.95**
Switchable between 200dpi and 400dpi
Supports up to 32 grey shades with adjustable contrast
Supplied with EXPRESS-IT! software, image utility allows you to save in the format best suited to your favourite package.

**SUPRARAM RX 500 (512K to 8Mb. RAM Expansion)**
The RAM expansion giving massive memory WITHOUT dismantling your Amiga, thus avoiding the possibility of invalidating your warranty. Easily connects to sidecar with bus 'pass-through' for HD's etc.
**2Mb. RAM Version** £199.95 **4Mb. RAM Version** £329.95
**8Mb. RAM Version** £549.95



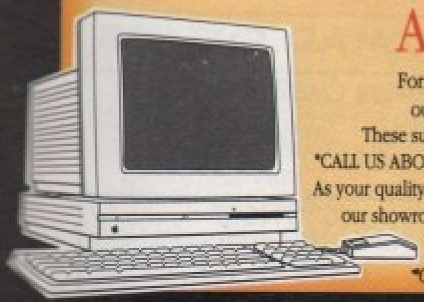

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|---|---|
| **NAKSHA MICROSWITCHED MOUSE** | **£24.95** |
| **GOLDEN IMAGE OPTICAL MOUSE** | **£32.95** |
| **COMPETITION PRO JOYSTICK 5000 Black** | **£7.95** |
| **ZIPSTICK JOYSTICK** | **£12.95** |
| **COMPETITION PRO STAR JOYSTICK** | **£14.95** |

The ONLY joystick to obtain a 100% rating from a magazine review!

**3.5" DISK HEAD CLEANER** **£2.99**

**BLANK DISKS with labels**

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|---|---|
| 10 Genuine SONY 3.5" branded | Only £9.95 |
| 50 Genuine SONY 3.5" branded | Only £39.95 |
| 10 Unbranded with library case 3.5" certified | Only £7.95 |
| 200 Unbranded 3.5" certified | Only £72.50 |



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REMEMBER AFTER YOU'VE BOUGHT FROM HARWOODS, WE'LL STILL BE HERE...

TECHNICAL SUPPORT: You will be given our Exclusive Technical Support Phone Number to call should you require any help or advice on any aspect of the system you have purchased.
12 MONTH WARRANTY: Items proving faulty within 30 days of purchase are replaced with NEW UNITS unless otherwise stated. For the whole guarantee period, warranty service will be completely FREE OF CHARGE.
COLLECTION FACILITY: Any computer, monitor or printer requiring warranty service can be collected from your home FREE OF CHARGE during the guarantee period (UK Mainland only) and a FAST turnaround is GUARANTEED by our OWN ENGINEERS!
FULL TESTING PROCEDURE: All computers are tested prior to despatch, and all items are supplied with mains plug and leads as required - just connect up and use straight away.

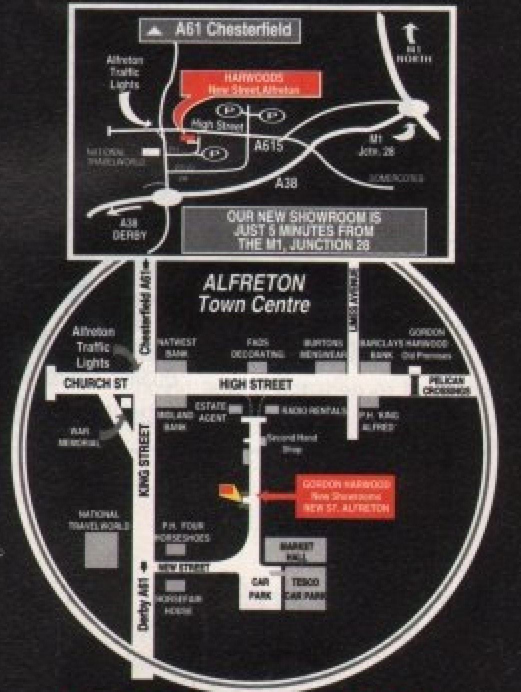
*REMEMBER WE'RE NOT JUST ANOTHER MAIL ORDER COMPANY...*

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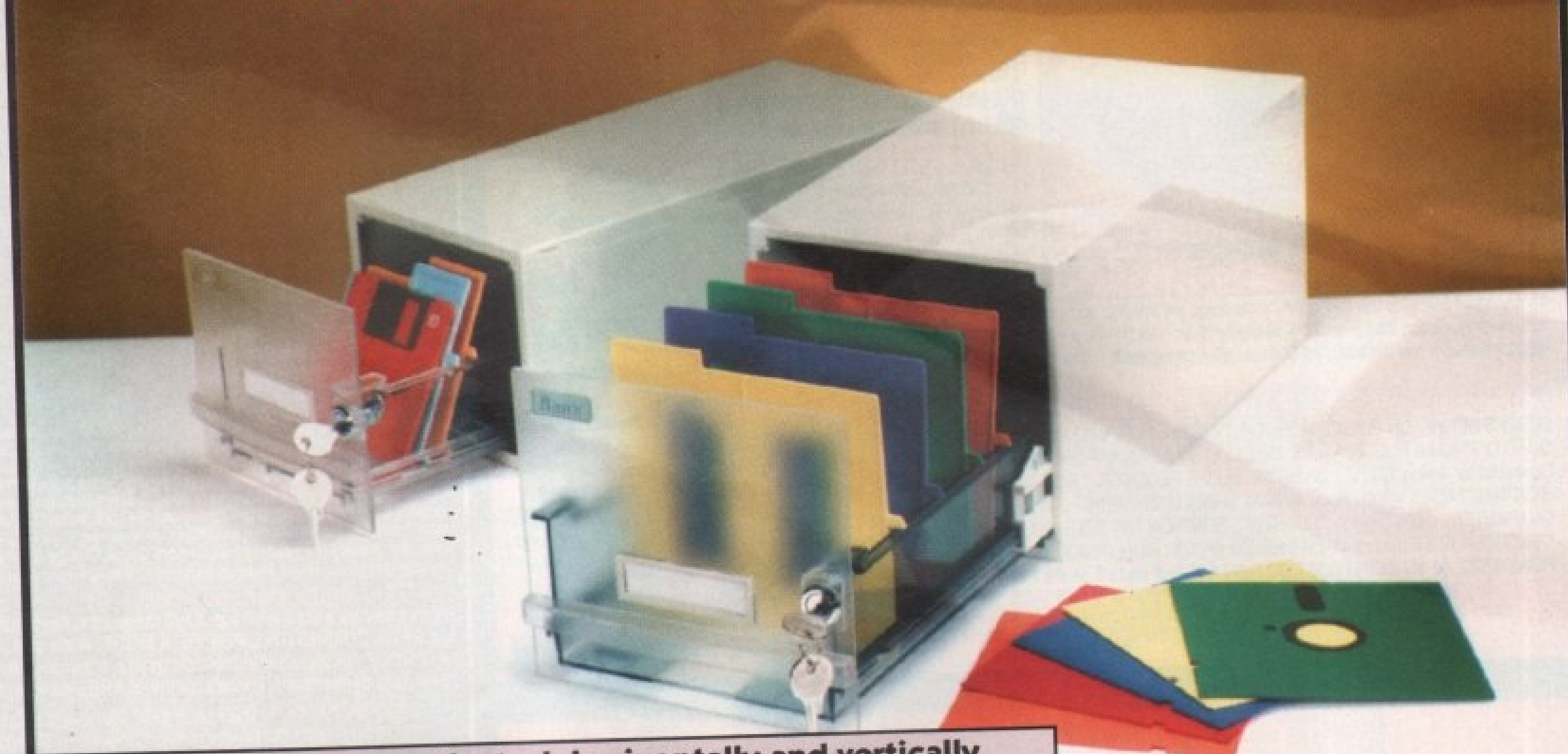



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# Jackpot!

AMOS Coin Drop is a fully featured fruit machine simulator. That means you don't just press the Play button till you run out of money. There's a great deal more skill and judgement to this game than you might think.

On loading, you are given a number of choices. Up to four players can gamble at once, and you can give each player an initial stake of up to £10, so if you like, the game can be set to fairly huge proportions. Once all choices are made, the game is ready to play.

Above the main display area there's a skill trail which comes into its own when you score highly on the play reels. If you're lucky enough to get "trail held", and light up all the letters in the word AMOSCOINDROP, you can try your luck at one of the skill challenges, which is where the game makes its strongest impact on your addiction centres.

The first two challenges involve the number reel in the familiar High-Low gamble where players can elect to gamble for money or more nudges. If you manage to skip on to the later challenges, you'll be faced with Twenty-One, Skill Reflex, Cash Climb, Full House, Stop and Match and finally Five Auto Wins, which can bag a pretty penny or two for your hard-hit coffers.

To start a game, click on either the £1 or 10p slots to insert your "money". If you're sensible, you'll have chosen to start with a tenner in the bank, but starting with only £1 can add to the tension as you can quickly run down to only a couple of plays left in which to win something.

## Cheating

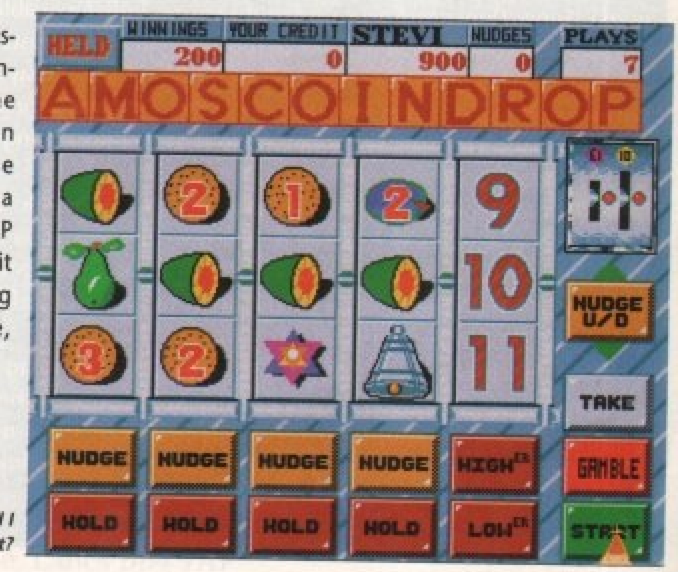
For cheats, there's a wimp mode you can call up by pressing C. A scrolling screen showing all figures on each reel is displayed, which helps immensely when you've got five nudges and don't know how to use them.

Pressing H will display all scoring combinations and the money earned on them. U scrolls the number reel down a position, and D or P pause the game – it goes into flashing lights demo mode, just like the real thing. Apart from these keys, you'll only ever use the mouse to control all other functions. Amos Coin Drop is fun, addictive, and easy to play for hours on end. Have fun!

● Amos Coin Drop is a shareware program. This means that if you like it you should send a donation to the author at the following address:

*John Ingham*
*8 Cyprus Terrace*
*SHEFFIELD*
*S6 3QH*

The author suggests £10, for which you can have the Amos source code and a version customised specially for you.




*Two quid! Should I gamble or take it?*

## How to use the Disk

First of all, you must make a backup copy of the CoverDisk. To do this, boot up with your copy of Workbench, then double click on the Workbench disk icon, followed by the Shell or CLI icon. Now type:

DISKCOPY FROM DF0: TO DF0:

or, if you have an extra disk drive, put a blank, formatted disk in DF1: and type:

DISKCOPY FROM DF0: TO DF1:

Follow the onscreen prompts until the copying procedure has ended, then put your original disk away in a safe place. Now switch off the machine and wait for 30 seconds before rebooting with the copy. Wait until the CoverDisk icon appears, double click on it and away you go.

That's all you need do to make a straight copy of the entire disk. However, you may also want to to copy individual programs from your copy of the CoverDisk to a separate disk. In this case ensure that you fully understand which related files need to go with it.

For example, all of the document files on the disk require that the text editor PPmore is in the current disk's C: directory. Therefore, if you copy the docs to a new disk you will also have to copy PPmore to the new C: directory before you can read them.

Some of the smaller docs will not have been crunched, so for these you need only change the tool types on the icon's info screen to reflect whichever text editor you do have on the new disk.

As a general rule, you should carefully read the documentation for any program you copy from disk to disk.

This can save a great deal of messing about and can help you avoid all those infuriating error messages!



# Super-Duper

Author: Sebastiano Vigna

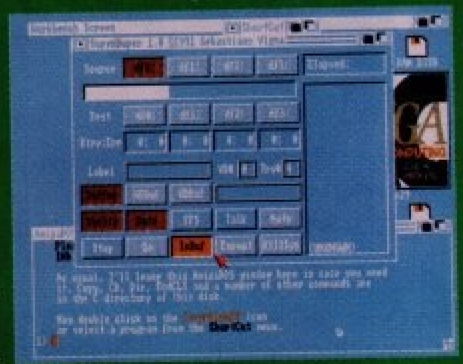
Super-Duper is a fast and friendly utility for copying and formatting disks. It uses a few very clever tricks to make its operations as fast as possible, and claims to be able to copy a disk from its RAM buffer in as little as 36 seconds, which is about as quick as a floppy will ever go.

When loaded, it instantly looks friendly and useful. All features can be set using buttons, and if a straightforward diskcopy is all you're about, you need only click on the source and destination buttons to get under way. Formatting a disk is just as easy.

At its optimum operating settings, Super-Duper is a match for any flash disk copying program such as XCopy and D-Copy.

Users of 512k machines, however, will have to largely forego this feature, as it requires the use of an 880k RAM buffer unless data compression is used.

To load a disk's contents into your buffer, select the source disk (DF0:, for example), then click on Buffer, and finally on InBuf. The fuel bar should start to turn white as the source disk is copied in to RAM. The process will take less than 40 seconds, even with verify selected.



*Super-Duper can load your disk onto a buffer for super-fast disk copies*

Now that your buffer is ready to use, insert a disk in the destination drive, click on its button as the destination, make sure Buffer is active, and click on Go. The diskcopy will be complete in about 36 seconds.

On machines with 1Mb or less, you may not be able to create a full-sized buffer of 880k. If this is the case, you should close as many windows and applications as possible before using Super-Duper.

## Maximum allocation

If, after all that, you still have less than 880k free (such as 512k users), Super-Duper will allocate the maximum buffer possible and use real-time compression to squeeze the most out of your system. As a last resort, Super-Duper has a KillSys function tucked away in the bottom right-hand corner. When clicked, this will close Workbench and grab back the memory previously used by it, thus leaving more for buffering.

If you use Super-Duper from a hard drive, it is possible to use space on the drive itself as a buffer, which will be almost as fast as buffering in RAM if your hard drive is a good Quantum unit. Alternatively, the VDBuf button enables users to specify a device such as RAD: or VD0: as the buffer device.

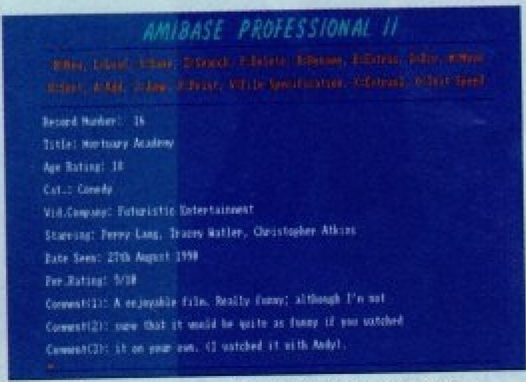
If you fancy just formatting a disk rather than carrying out a diskcopy, Super-Duper will accomplish this in about 37 seconds, as opposed to the 1 minute 40 seconds you'd wait for a normal AmigaDOS format operation. At 294 per cent, that's some improvement!

# AmiBase Professional II

Author: Keith A Grant

AmiBase Professional II is the best shareware database available for the Amiga. Period.

Previously a copyrighted program distributed only by Amiganuts, v2 has recently been released as shareware to widen the user base so that they will upgrade to the more powerful AmiBase Professional III, which Amiganuts will flog you for £10. As it stands, however, the version on this month's disk is easily capable of meeting the needs of most home users and enthusiasts.




*The Amibase main screen, showing key options at the top*

AmiBase opens on a blue background with all the important options listed at the top of the screen.

For instance, to create a new database, just type N, answer a few questions on the number of fields you want, type in their names, decide whether to password the database, and you can start entering data. If you intend to use AmiBase for simple address book-style records, you need go no further than this into the program's complex features.

For those with more demanding uses, AmiBase can be surprisingly willing to comply. Records can be filtered to create sub-databases, IFF pictures can be attached to records, there is a very fast and flexible search function (more so than Prodata's!) and data in any one field can be added or subtracted across the whole database so that, for example, a total of all stock values can be reached.

## Demonstration

As an example of what AmiBase can do, there's a database on the CoverDisk ready to use. Type L to summon the file requester, click on the "videos" file and then on OK. AmiBase will display the database's file specifications and inform you of how fast it's being loaded in. Once loading is complete, the first record pops onto your screen.

To move around the database, use the arrow cursor keys. If you have a specific record in mind, the J key will enable you to jump to it in a flash. AmiBase loads your database straight into memory, and can therefore dash round a large database with a speed many commercial programs would envy.

To test this, go to the last record, number 47, by pressing J or the up-arrow key. Now look for a unique string of characters, such as "winning", and go back to record 1. By pressing Z you call up the search menu with its four options. These are all different ways of searching for something, but for now use option 3, In-Search.

This option searches the field you specify for a string of characters you specify, and does so through the whole database. A much more powerful and flexible way of searching through the database is available through the multiple search options. When these are chosen, you will be asked which fields you'd like to search through and which string you'd like to be ferreted out of each field.

As long as you don't attempt to trawl through five or more fields, the multiple search is almost as fast as the simple search and makes the manipulation of your data a great deal easier. What if you want to amend data within a single record? There's no key listed for the Amend function, but before you give up AmiBase as a bad thing, press the Help key.

## Weakness

This puts you in Amend mode, which is where AmiBase shows its only annoying weakness. To change the data in a field, use the jump function to find the correct record, highlight the field with the arrow keys, then press Return or Enter. Notice something silly? Yes, the entire contents of the field are wiped out.

This means that if you've only a slight spelling mistake to rectify, or another minor adjustment in a field, you have to type the whole thing in from scratch.

This aside, there's precious little to complain about. AmiBase has a lot more than the standard database facilities. There are two menus of extra features to choose from, offering the paranoid among us several handy data security features, printing options, and a few program management extras.

Program management features include auto-load and auto-save. The latter is just a timed save option to guard against losing loads of data due to power surges and so on, but the auto-load feature is extremely useful.

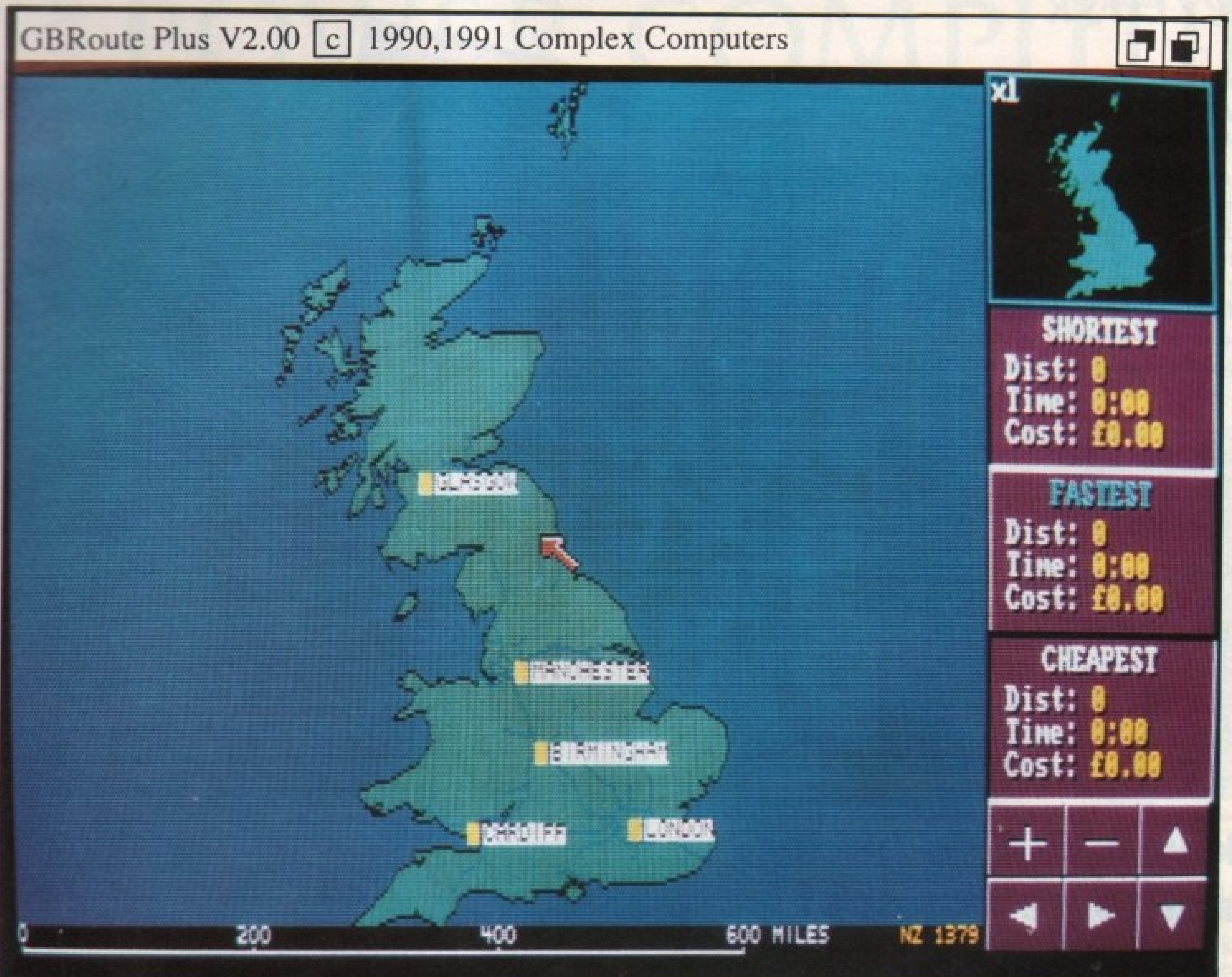
By choosing a database and its directory path, the user can instruct AmiBase to load that database every time the program is run, thus saving users with a day-to-day database requirement the hassle of loading the same database time after time.

## Shareware notice

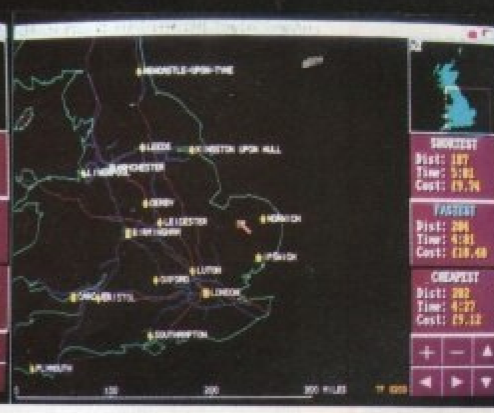
AmiBase Pro II is a shareware program. This means that if you like it and intend to use it, you should send a shareware donation of £5 to the author at the following address:

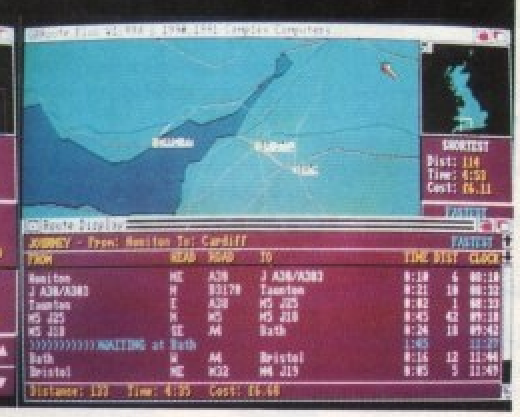
*Keith A Grant, 15 Laurel Drive, Tilehurst, READING RG3 5DY*

See the doc files on the disk for details on how to purchase the commercial version, AmiBase Pro III.







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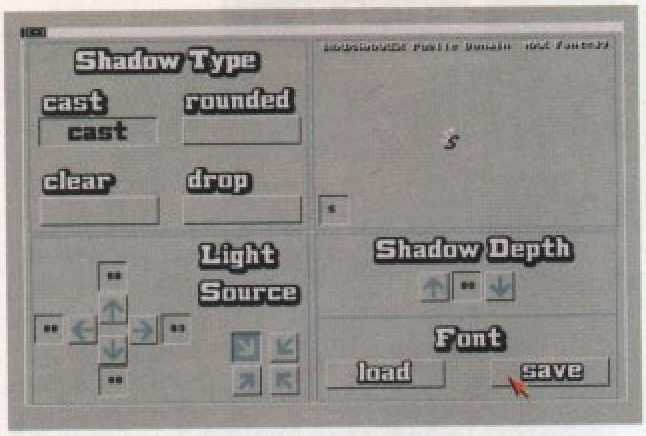
## ShadowMaker

**Author: Stephen Lebans**

ShadowMaker is a public domain version of a commercial program, but it has been released in a very usable form. It's function is to add shadows to the font of your choice, making easier the previously very tedious process of adding them in DPaint.

The font is saved separately in its shadowed form, so it is available instantly for your pictures, video titling software, or presentation package. The only restriction placed on this PD version is that it will not accept fonts larger than 39 point. You may load fonts up to 99 point and play about with them, but you won't be able to save them as a shadowed font if they are sized 40 or over.

To try out this neat piece of software, load up the mFast font from the CoverDisk. This is a 20-point font used by AmiBase Pro II and could do with an extra dimension. First of all, try switching between cast, drop and rounded, the three types of shadow on offer. The effects generated by these are variable enough to give a real choice over the final appearance of your shadowed font. Below the shadow type boxes, there's a selection of gadgets enabling user control over the light source. You can control the angle from which the light shines and the displacement of the letter itself in the X and Y planes, which makes possible a wide variety of shadow effects.




*ShadowMaker gets to work on mFast.font*




### Preview

To the right of these gadgets, you can see a preview of how your font will appear with its shadow. Note that although the default letter is S, you can type any letter you like into the small box in the corner of this section and see how that will look. This is important for letters like O and B, where a dodgy shadow can make the letter look solid rather than full of holes.

Apart from the obvious gadgets onscreen, the only other control is the anti-aliase toggle available via the pull-down menus. When this is selected, the font will be saved in an anti-aliased format, which could make it appear smoother in certain titling packages. Apart from that, there's not a lot else to say. ShadowMaker works well, and can take away a lot of the hassle involved in adding shadows to fonts. AC

## Shareware slip-up

If you bought our January issue and were impressed by the Excellent C Designer program on that month's disk, you may not be aware of its shareware status. I've suffered under the cat-o'-nine-tails to atone for the fact that, by an oversight, we didn't print our customary shareware message.

All you C designers out there should send your £5 shareware donation to:

*Nicholas Dyson,*
*136 Craiglea Drive,*
*EDINBURGH*
*EH10 5PR*

OK, now you know and there's no excuse for holding onto the fivers.

## Think you can do better? Want to be famous?

We are always on the lookout for new, quality Amiga programs for the CoverDisk. If you think you have written something good enough for others to share and enjoy, please send it in and we'll have a look.

The *Amiga Computing* CoverDisk is used by thousands of Amiga owners every month in places all over the world from New Zealand to the USA, so if your submission finds its way onto the disk, you could be famous!

Please make sure you list ALL Workbench and other files necessary for the program to work. Feel free to design your own icons for progs which run from Workbench, but please don't make them too big.

If you ensure your program is as compatible as possible with a wide range of Amigas, it will also stand a better chance of publication. We are especially interested in programs designed to work with the A3000, although if they work only with the new machine they'll have to be quite small.

We are prepared to pay our current rates for original work which hasn't been distributed in any other way and which has not been put in the public domain.

If you wish your program to be released as shareware or freeware we will be happy to publish it, but would, of course, be happier if we'd been given it first!

Your submission MUST be accompanied by the submissions form, a copy of it, or a signed declaration to the same effect. Please supply your full name, address and phone number.

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CoverDisk Submissions, Europa House,
Adlington Park, MACCLESFIELD SK10 4NP

## AddTools

**Author: Steve Tibbett**
**Workbench 2 only**

Steve Tibbett is one of those names you see cropping up in PD and shareware all over the place. He's been responsible in the past for VirusX and ScreenX, and now it's AddTools.

The program is a simple little beast, but if you don't have Workbench 2, you'll never know how useful it can be. It adds user-defined menu commands to the Workbench 2 Tools menu, and is therefore incompatible with older Amigas equipped with Workbench 1.3 or 1.2.

To run the program, you must have an Ascii file called Toolslist in the S: directory of your boot disk.

To help you out, we've included a Toolslist on this month's disk, so A500 Plus and A3000 owners can run the tool and check it out. The toolslist includes entries to run Amos Coin Drop, AmiBase Pro II, ShadowMaker, and Super-Duper.

For each menu entry, there are three lines describing the menu item's title, the command to be issued when the item is selected, and the directory in which the command is located. For instance, the entry to run ShadowMaker looks like this:

```
ShadowMaker
ShadowMaker
SYS:Utilities/ShadowMaker/
```

In other words, there's a menu item called ShadowMaker, when it's selected, AddTools issues the command "ShadowMaker", and it looks for the file in SYS:Utilities/ShadowMaker/. Dead easy.

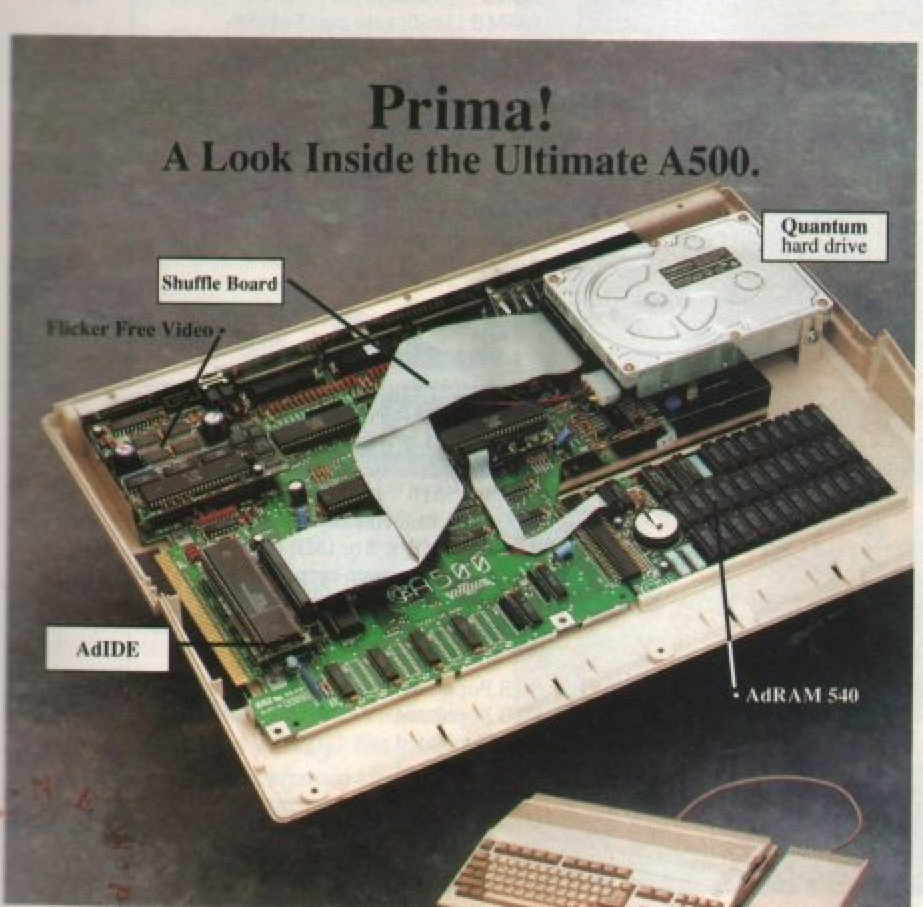
## Faulty Disk?

*Subscribers* — If you subscribe to *Amiga Computing* and your disk has been damaged in the post, please return it to:
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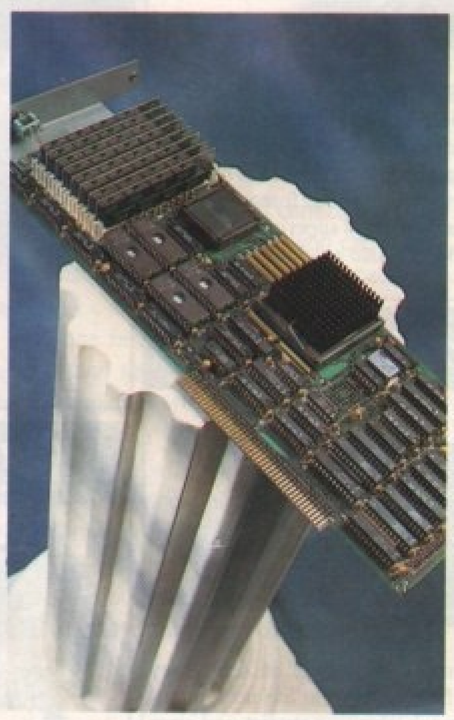


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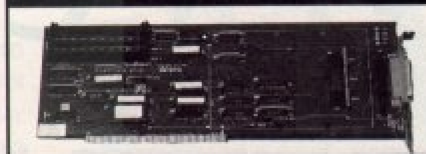
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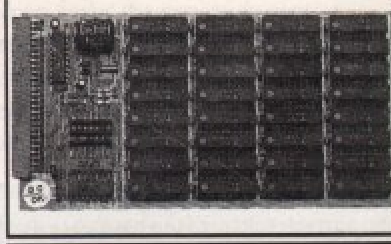
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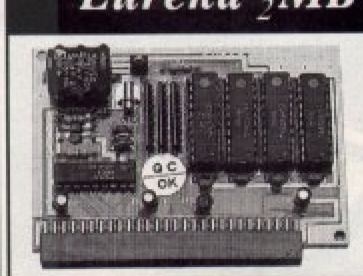
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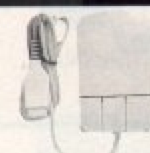



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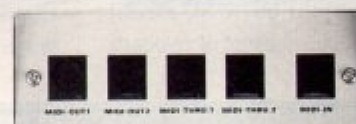
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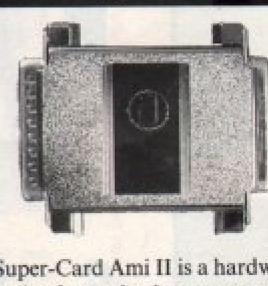
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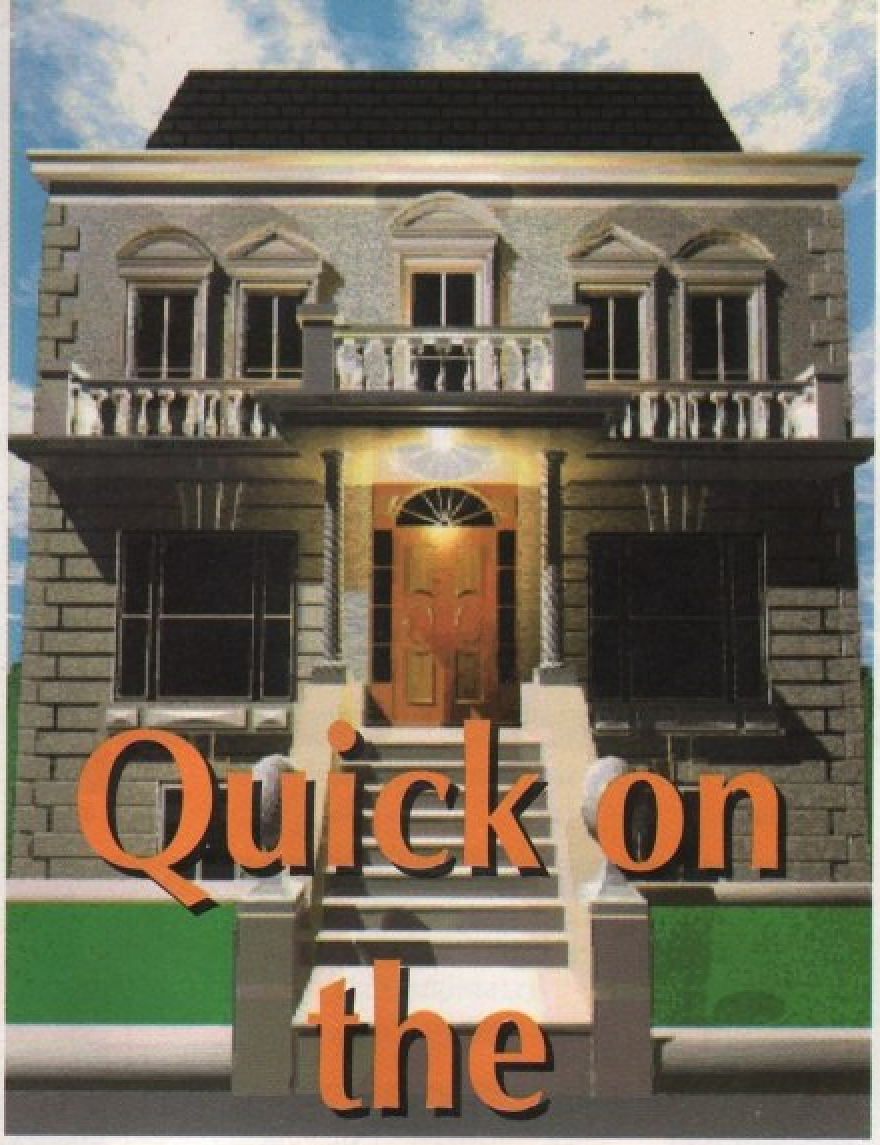


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# Quick on the DRAW

## Part 2

**Stewart C Russell concludes *AC's* round-up of Amiga CAD packages, and reaches his verdict...**

There's a nice long word appearing more and more these days – interoperability. Basically, it means that data from one system can be used in another.

The industry standard CAD data format is AutoDesk's Drawing Exchange Format (DXF) which is used by its AutoCAD and AutoSketch systems. It takes the form of a text file, with sizes and dimensions listed after obvious commands such as Line and Text.

Now this would be jimdandy if AutoDesk didn't keep revising the standard. At the last issue but one of AutoCAD (release 10) the DXF standard was revised, and the rest of the world had to scrabble about to change. What's more, there are 2D and 3D versions of DXF, so things get more and more complex.

Armed with a PC disk filled with AutoCAD drawings and CrossDOS, I set about testing the DXF capabilities of the programs.

Both X-CAD programs use the same modules to read and write DXF files, so it's no surprise that they performed identically. A few errors cropped up – drawings were nearly always off-centre (fixable with one Move command) and text was always slightly too wide. DXF isn't meant to be a perfect transfer medium, and it only takes a couple of minutes to fix. The convenience of drawing exchange is more valuable than these minor niggles.

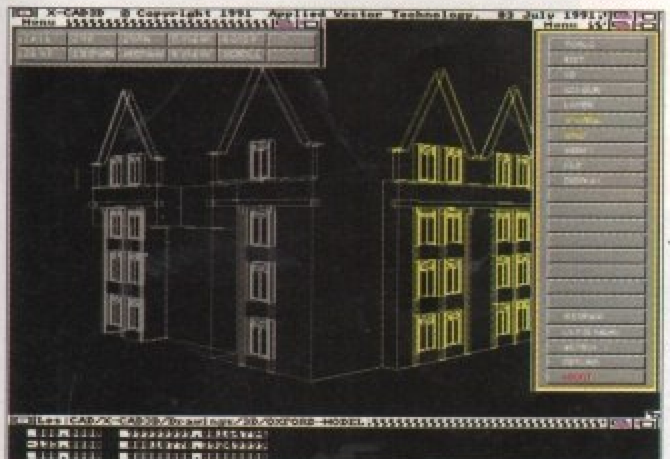
DynaCADD accepted any of the DXF files, although they did take a very long time to load. The wait was justified, as all the drawings were imported as close to perfect as I could make out. I did have minor problems exporting DXF from the program, but I suspect it was a couple of the routines I was running in the background interacting to make trouble for themselves.

It's a tribute to all three programs that they read each other's DXF files, and AutoCAD liked output from any of the programs. It's at times like this that data exchange is as joyous as spring itself.

DynaCADD also supports its own DEF exchange format. This is designed to overcome the difficulties of translating DynaCADD parts between the PC, the ST and the Amiga. As I don't run DynaCADD on those other machines, I couldn't test it. What did catch my eye was a little ghosted-out button in the Exchange requester, with the mysterious "IFF-CAD" marked on it. This standard doesn't exist yet, and I'm intrigued to know when it will be introduced.

The observant reader will have noticed that I have not mentioned Plans. The truth is, it doesn't support DXF in any shape or form (yet). What it can do is take a file meant for a Hewlett-Packard plotter and reconstruct it into something resembling a drawing. The translation isn't perfect, but it guarantees that at least something can be imported into Plans from any CAD package.

Anyone remember Aegis Draw? This ancient and thoroughly obsolete package has wormed its way into Amiga history mainly because Gold Disk's Professional Page software will read its data files as structured drawings. Plans will import an Aegis Draw file as a single part, as Draw wasn't too clever about data handling. Aegis Draw output is kept as simple as possible so that ProPage won't complain.



*3D editing in both new X-CAD packages is provided by versions of the existing X-CAD 3D environment. X-CAD 3000 contains the full 3D package, while 2000 loses 3D surface modelling*

### User support

You've been through the manual, you're running late with the schedule, and the thing won't do what you want it to. Time to pick up the phone, and do some serious asking.

As befits an expensive program, DynaCADD is well supported. Telephone support is from Expressworks, the UK distributor, but you can also Email the authors direct via CompuServe. I had to use both options, and was very satisfied with results.

When you buy DynaCADD you can inform Expressworks of your main area of work (be it architectural, pipework, circuitry, whatever) and you will be sent disks full of BSI-approved symbols for importing into your drawings. This is a neat service, as well-formed symbols can speed up the drawing process many times.

AVT's support comes from the heart of sunny Middlesex. There's a fair chance that you'll talk to the author of the program, so your problem should be explained away quickly. I've been very happy with all my dealings with AVT from way back in the days when X-CAD Designer was very new.

Plans support may be a problem. Not that Gary Hale doesn't care about his program – I've had near fanatical testimonials over Usenet about it from various users – it's just that the eight hour time difference between here and Oregon is very awkward for phoning. Letters are handled as quickly as possible – call it three weeks, for the US Mail service isn't noted for its expedition. At times like this, the arguments for electronic mail are extremely strong.

In every review of anything remotely complex, there are things which really should be mentioned, but it's just a smidge difficult to categorise them. So here's a veritable rummage sale of features, presented without thought for personal safety.

Layers are handy things for keeping different aspects of the drawing apart. The tedious – but surprisingly apt – description of layers is a stack of clear sheets, on which details can be drawn. To stop the border interfering with the central detail, you'd draw them on different layers, in different colours.

### Accountant

All the packages support layers to an admirable extent. Plans has a mere 250 separate layers, each of which can be accessed by name or number. All the rest of the systems have 256 – if you use even half of them you're doing some serious drawing, so none of the packages will hold you back.

A work of CAD art can be shot down in flames by the inquisitive cost accountant, who merely asks how much the object in question would cost to build. Now if the package supported object attributes, you'd be able to reply to the nearest penny.

X-CAD 3000 alone supports attributes. They allow you to assign non-graphical information such as price and supplier to objects. At the end of the day, you can get a list of all the attributes used, so if every part is costed it's easy to total them up.

Rich folk will appreciate maths co-processor support, for all high-end machines come with one. X-CAD 3000 and DynaCADD come with versions for expanded machines – in Plans, a separate version is required, and X-CAD 2000 doesn't know about them at all. Plans can also support any number of drawings open at the one time, and parts can be cut and pasted between them. You ➤

## Special features chart

It would be pointless to list every single feature of the packages – the list would be pages long and full of common entries. Instead, some special features which might influence your purchase are given here.

| | Plans | X-CAD 2000 | X-CAD 3000 | DynaCADD |
|---|---|---|---|---|
| Version tested | 2.0 | 1.1 | 1.0 | 2.00.01 |
| Type | 2D | 2D/3D | 2D/3D | 2D/3D |
| System Requirements | 1Mb RAM, 1 FD | 1Mb RAM, 1 FD | 1.5Mb RAM, 2 FD | 2Mb RAM, HD |
| Price | US $150 | £129 | £399 | £763.75 (£650+VAT) |
| **Command input** | | | | |
| Command line | No | Yes | Yes | Yes, but no echo |
| Icon menus | No | Text-based | Text-based | Graphical |
| Expression calculator | No | No | No | Yes |
| Crosshairs | Yes | No | No | Yes |
| Tablet support | No | No | Cherry, Summa | No |
| Journal file | No | No | Yes | No |
| **Text** | | | | |
| Multiple fonts | Yes | No | Yes | Yes |
| Font editor | Yes | No | Yes | via external utility |
| **Dimensioning** | | | | |
| Default system | Imperial | As sheet system | As sheet system | As sheet system |
| Dimension alignment | Manual | Automatic | Automatic | Automatic |
| (Automatic in 2.1) | | | | |
| Tolerance input | No | No | Yes | Yes |
| **3D** | | | | |
| Multiple view | n/a | No | No | No |
| 3D Surface | n/a | No | Yes | Yes |
| Rendering | n/a | No | Simple facet | No |
| Ray Tracer Output | n/a | No | Turbo Silver, Imagine | Imagine, Sculpt |
| LightWave, VideoScape | | | | |
| **Import/Export** | | | | |
| DXF | No | 2D/3D Read/write | 2D/3D Read/write | 2D/3D Read/write |
| Aegis Draw | Yes | No | No | No |
| HPGL Import | Yes | via external utility | via external utility | No |
| **Output** | | | | |
| Plotter | Any | HPGL | HPGL, DM/PL, | Any Benson, Kyocera |
| Printer | Any | Epson 9- & 24-pin | Epson, Laserjet, | Star, Epson, Laserjet, |
| (via Preferences) | Xerox, Mitsubishi | Roland DG, and others | | |
| Screendump | Yes | Yes | Yes | No |
| IFFScreen only | Screen only | Screen only | Full drawing | |
| PostScript | No | No | No | Yes |
| **Miscellaneous** | | | | |
| Max layers | 250, Named | 256, Named | 256, Named | 256, Named |
| Object attributes | No | No | Yes | No |
| Co-processor support | Optional | No | Yes | Yes |
| Bitmap import | Yes | No | No | No online help |
| Screen mode | Any | Med-Res, hi-res | Hi-res only | Hi-res only |
| Multiple drawings | Yes, with cut/paste | No | No | No |

can't have multiple drawings onscreen, but that would incur terrible redraw times, so the loss is minimal.

If that wasn't enough, Plans also supports full hierarchy in its drawings. A part can contain any number of sub-parts, each of which can have sub-parts, and so on – it's a little like a disk directory. The advantage of this system is that it allows large and complex entities to be built up from sub-entities, and then manipulated as required.

This may sound a little like defining a part (or block, or symbol) which all the systems support. You can emulate the effects of Plans' "directory trees" in all the other packages, but it takes a conscious effort. And thinking, and the avoidance thereof, is what computers are all about.

## The verdict

If you require a CAD system for commercial or very serious hobbyist work, it has to be X-CAD 3000. None of the other systems come close in terms of features, price, and above all, speed.

It's interesting to note that if you shop around you will be able to buy X-CAD 3000 and the Imagine rendering system for slightly over £400. This setup can produce 3D drawings, and then visualise them in 4,096 colours, or 16.7 million colours on a 24-bit system. Try doing the same on a PC system – and the software is fully ten times the price. You could probably fit in a fully specified A3000 in the PC setup price as well.

If you mostly work in 2D, but a little 3D would be nice to have, then X-CAD 2000 is the one to go for. It is unbelievably fast, inexpensive, yet can still import and export industry-standard 3D drawings.

Plans is rather difficult to place. It's the only program with a real Amiga feel to it. It's inexpensive (as CAD packages go) yet it has features (such as part hierarchy) which are rarely seen outside top-line systems. If having the fastest CAD package on the block doesn't bother you, Plans is a solid, honest 2D program which won't let you down.

If you have a very fast Amiga and a big budget, or an existing installation using the program, DynaCADD is an option. It's very well specified and the user support cannot be faulted, but even with all its features it just doesn't seem to fit the Amiga terribly well. I would want a more flowing user interface and much quicker redrawing for my money.

## Products, publishers & distributors

X-CAD 2000 £129
X-CAD 3000 £399
Publisher - Applied Vector Technology Ltd
Tel: 081-569 3338
Fax: 081-573 3713
UK Distributor – Power Computing
Tel: 0234 843388
Fax: 0234 840234

DynaCADD £763.75 (£650+VAT)
Publisher - Ditek International
(Toronto, Canada)
Tel: 010 1 416 479 1991
Fax: 010 1 416 479 1882
UK Distributor - Expressworks Ltd
Tel: 0252 726255
Fax: 0252 727125

Plans US $150 (approximately £90)
Publisher & sole distributor-
Gary Hale Development
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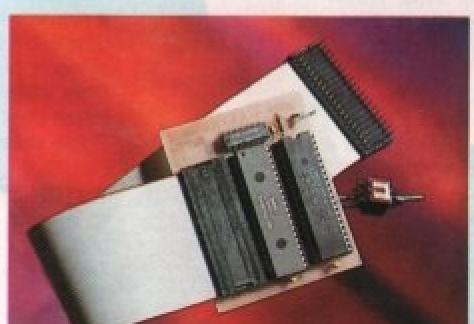
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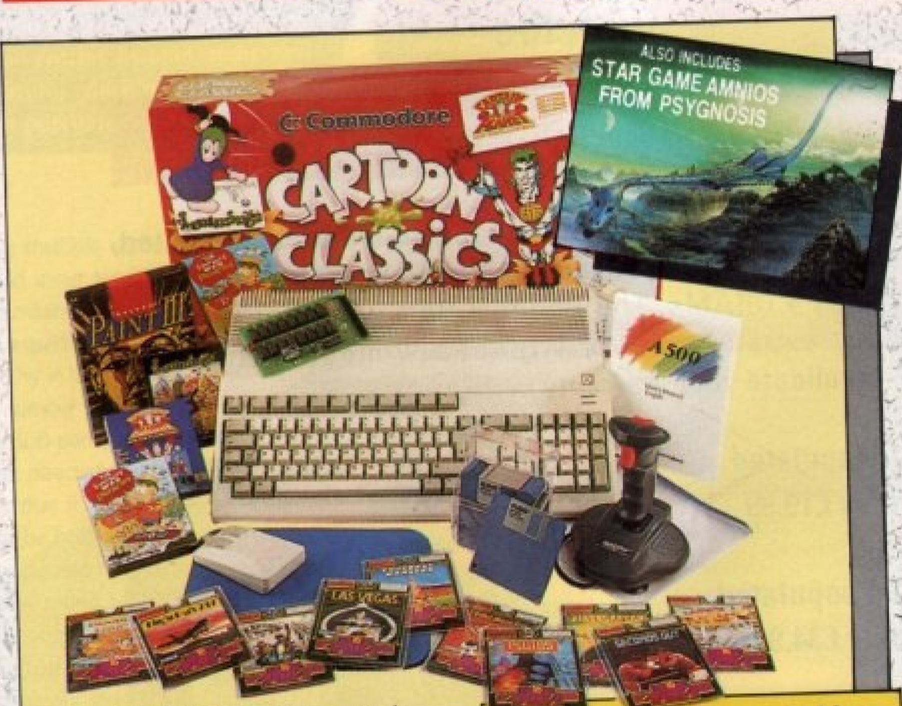
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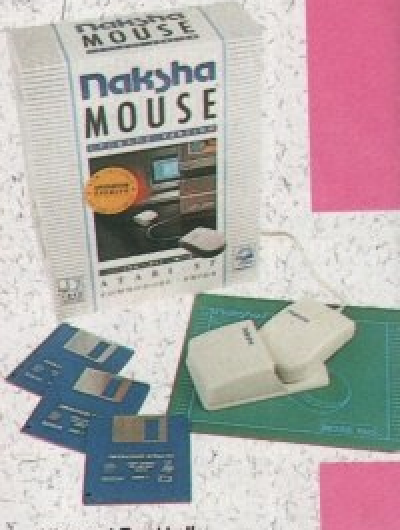
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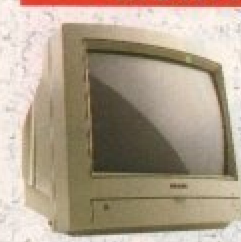
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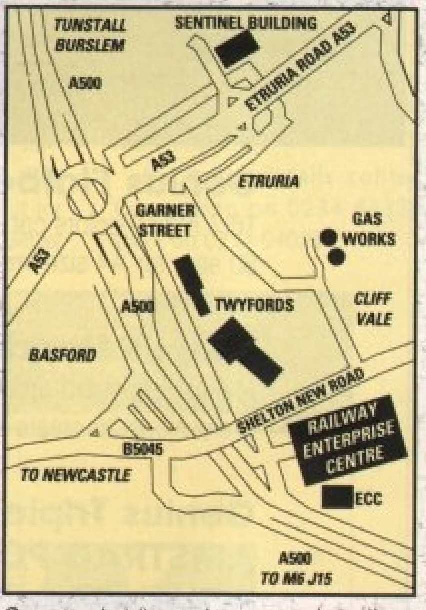
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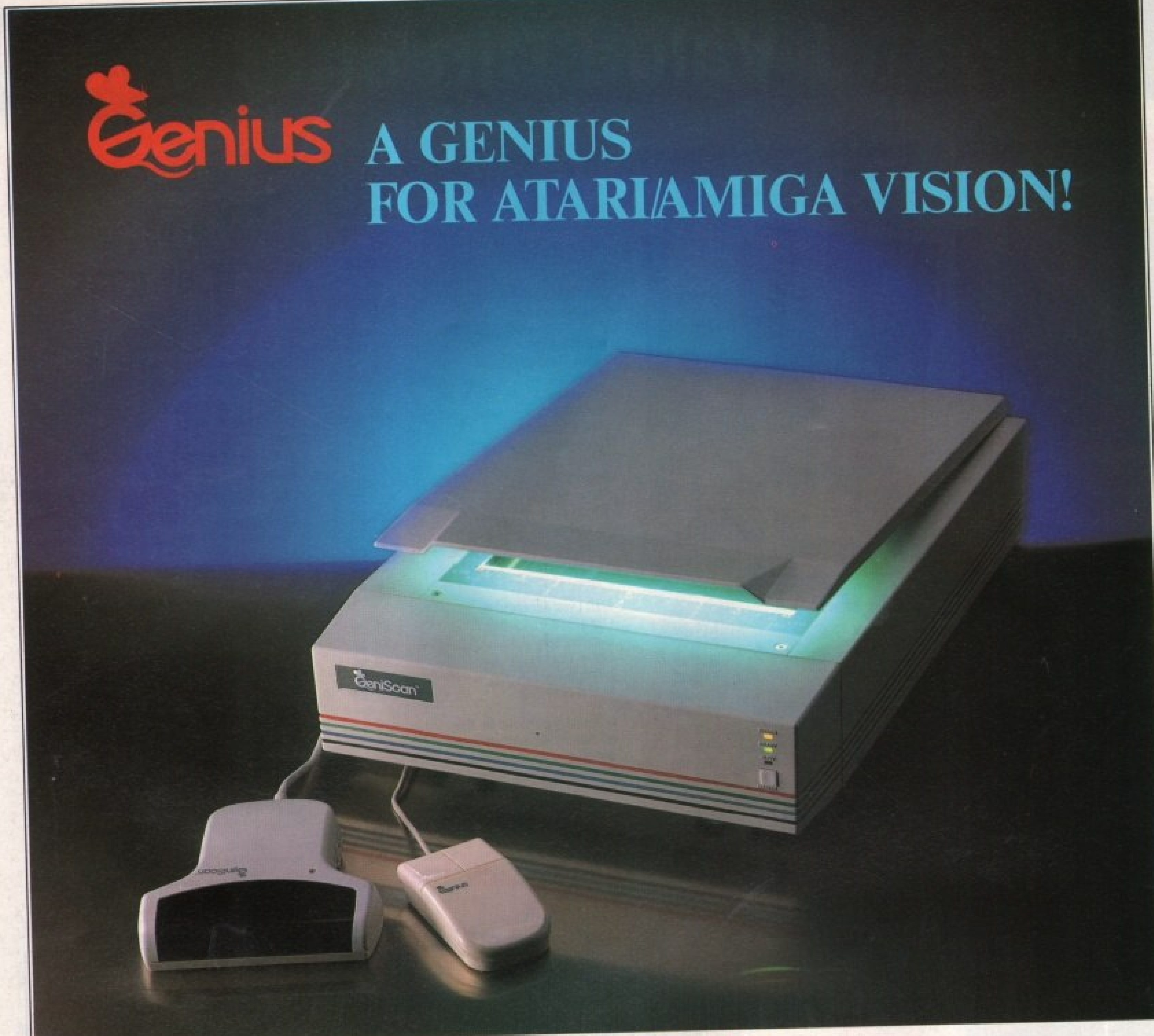

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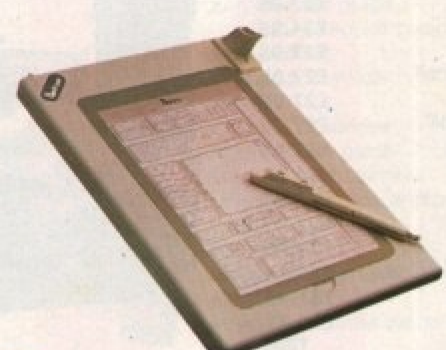
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# AMIGA Update

**Our monthly saga continues with more social climbing software and state-of-the-art silicon battling for your hard-earned cash...**

The all-new Power Scanner and its attendant software is available for less than £100. Bad news for the opposition, but to be honest the cut-throat price tag is the least of their worries.

Now before you dive on your machine ready to set pinkies aflame on your trusty wordprocessor, I'll explain why a relatively new product is appearing among the updates.

It's true that the Power Scanner is a new product, but this tag only really applies to the software. Like almost all other makes, the scanner itself is simply a re-badged unit that can be found under myriad titles on everything from PCs, STs and Amigas the world over.

This is what qualifies it for the update pages. But it's the software that makes it special and quite literally sets it apart from its opponents in the hand scanning community. In this particular case the scanner happens to be a Marstek but that's about as important as the colour. The only real consideration is its ability to operate up to 400 dpi. Combined with the excellent software, this package is capable of stunning results.

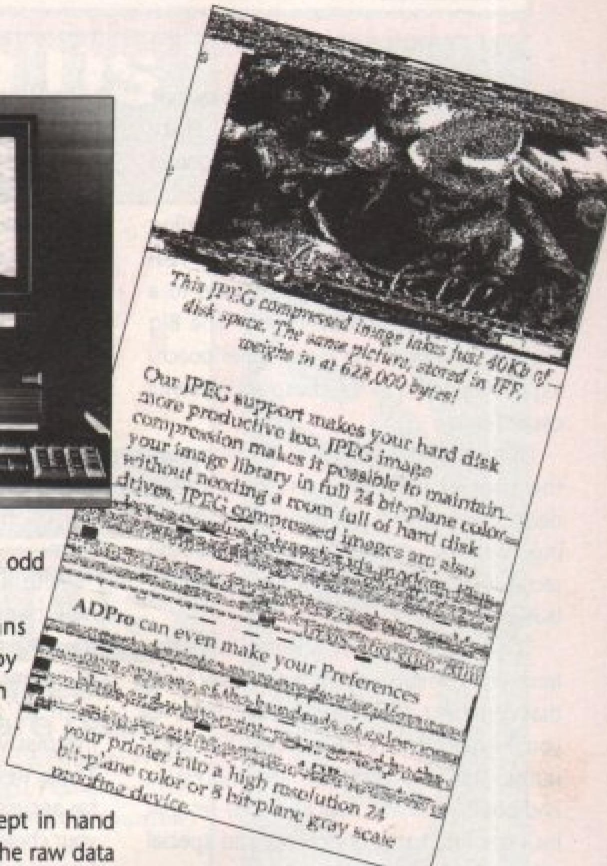
At this point, anyone who's recently purchased a competing model might be well advised to turn to the next page – it's almost certain you won't enjoy what you're about to read.

Software sorts the men from the boys in the scanning world, with the Power Scanner taking on almost Schwarzenegger-like proportions thanks to one basic ability.

Unlike the opposition, the Power Scanner employs true 64 greyscales rather than the more common shadow greyscale, which is employed by the competition to produce the illusion of 64 greyscales. This alone sets the Power Scanner apart and makes its imagery stand head and shoulders above the rest.

As you can see from the examples, the output is impressive and comes pretty close to that of our office pet the JX100 from Sharp. Obviously the JX is an infinitely more flexible unit, but if Power's promise of a colour Power Scanner appears the JX could soon face some serious competition. On top of the excellent scan quality, the Power Scanner also boosts the usual array of editing, sizing, orientation and manipulation options such as clipboards for cut and paste operations and a basic paint package to add the odd touch of artistic brilliance.






Either clips or whole scans can be scaled up or down by 50 per cent in one or both axis, with orientation adjusted in 90 per cent turns in the direction of your choice.

Memory management is kept in hand with the option to transform the raw data of the original scan into that of the more manageable "grey mode" which occupies just a quarter of the memory needed for its raw counterpart.

The image manipulation and the software options are no better or worse than many of the available alternatives. But for pure image quality it can't be beat. Better quality at a cheaper price – a rare thing indeed, making the Power Scanner the only real choice if you're interested in high quality monoimagery.

For more details contact Power Computing on 0234 843388 or fax them on 0234 840234.



## Huge goes professional

Regular readers of *Amiga Computing* will remember a shareware program called Huge which featured on our March 1991 CoverDisk. It was a graphics program designed for software developers and offered a variety of features, including the option to create bobs, sprites, or IFF brushes.

UGA Software, a company with deep roots in the European shareware market, are now marketing the Professional version of this package, and although it wil set you back £17.95, Huge v2.0 is a tool I'd recommend for any programmer who wishes to use graphics in a future project.

Huge Professional will enable the coder to draw sprites, bobs, brushes, or images then save them in either C or assembler source code, create and save icons of fairly huge proportions, and design colour palettes for use in other programs. The package's whole approach is practical and straightforward, so most programmers should feel at home with it, and it is a lot faster to use than, say, creating graphics in DPaint, then converting them to assembler with a separate utility.

Drawing options include zoom, mirror, rotate, and the usual cut and paste, but there's not really anything special about this part of the program. Its main thrust, as I've said, is to offer a cheap, useful graphics program for coders which will produce code they can instantly use in their own projects, and in this respect Huge Professional is a good buy.

Phone Europress Direct on 051-357 2858 for further details.




*Huge Professional has been largely improved (chuckle)*




*Broadcast Titler 2's all-new font pack*

## Whistles and bells for BT2

It's a fair while since the stylish Broadcast Titler 2 arrived on the DTV scene. Since then the program hailed as a milestone in video titling has gone relatively quiet.

Even so, it remains the premier titling package on the machine, the only real competition coming from Scala and to a lesser extent Show Maker, with The Big Alternative Scroller and Home Titler poaching a few punters in the cheap and cheerful department.

Fortunately the authors of BT2 have seen the error of their ways and have finally decided to support the package by releasing two new extensions which should secure BT2's place at the top of the titling ladder.

The first of the new releases takes the form of a complete set of ten all-new fonts that come in a selection of six BT2 sizes. As you'd expect from a package in BT2's price range, the new additions are impressive and boast a full 256 Ascii character set that includes international accents and special symbols. All anti-aliased, of course.

As well as BT2 friendly fonts the authors have kindly added a 115 scanline standard example font for each of the new styles. As a result, if you're planning to mix Dpaint animation or Scala style presentation with the titling features of BT2, inconsistencies should be easily avoided.

Although a complete set of original and stylish fonts are a welcome addition, perhaps the most important of the two packages has to be the BT2 Font Enhancer, which opens up BT2 to the variety of standard Amiga fonts.

With its help, you can now transform any standard Amiga font into a BT2-compatible complete with BT's four levels of impressive anti-aliasing. These new typefaces can be accurately scaled down to the size of your choice. But perhaps its most impressive feature is its ability to produce a whole family of font sizes from a single standard Amiga font.

The resizing process doesn't seem to cause any loss of detail, and kerning is automatically adjusted when necessary. The ability to transform any font into a BT2-friendly typeface should mean much smoother interaction between BT2 and other systems.

Once you've created a new typeface or selected a font from the expansion pack the next job is to load it up. You could employ the old-fashioned method of selecting each font in the appropriate size individually, but as you might expect this can be a tedious process.

Fortunately there is a alternative. Lurking in the BT2 directory you should find an Ascii file entitled BTfont.load. With the assistance of a text editor or Ascii-compatible wordprocessor, it's simplicity itself to list the contents of the script file and add your favourite fonts to the default loading list.

Now every time you boot up, BT2 will come complete with your choice of fonts already loaded. A small point but a handy hint which avoids the rather irritating and time consuming font loading ritual.

If you're interested in the new upgrades, each package will set you back £105 plus VAT. Not exactly cheap, but they both produce impressive results and to be fair they are aimed at the pro/semi-pro user who needs quality output.

If you like what you see and fancy investing in the original package, bear in mind that BT2 is very much a standalone package and doesn't interact with other packages at all well.

This is primarily due to its inability to multitask – something which can cause problems if you're mixing live and hoping to employ other packages in the production. However, if it's pure titling, stunning effects and ultra smooth scrolling you're after, it's the best in the business.

For more details contact The Amiga Centre Scotland on 031-557 4242.

## JCL gets animated

The JCL digitising combination of ColorPic and SuperPic have been around for a quite a while. Up until recently they were among the Amiga's premier digitising systems. Unfortunately the 24-bit explosion has destroyed their hitherto comfortable position.

Products such as GVP's IV24 and DCTV have blown a lot of the opposition away with image quality that Ham-based systems simply can't compete with. In the case of the IV24, the option to instantly capture 24-bit images makes it very attractive, even with its relatively high price tag.

DCTV can't compete with the instantaneous results of SuperPic, but for still images its 24-bit circuitry certainly makes it a very serious contender for those working with static subjects.

In this climate, JCL needed a new niche to explore and they may have found it with the release of an upgrade that offers a feature that only one 24-bit board can compete with – and only then if you're willing to invest tens of thousands of pounds to do it...

Animation could be JCL's saviour thanks to an optional RAM expansion that will allow either the ColorPic or SuperPic to be transformed into an animation tool.

Aside from the hardware, the system gets an added bonus in the new Cabaret-animate software. As well as handling single frame effects and general image processing, there's now full support for JCL's new animating features. The only real restriction, as with almost all multi-grabbing systems, is that of the maximum number of frames which can be captured at any one time, which on average is 11 in quarter screen mode.

If you want to capture live action, a delay can be defined to expand the duration of the process. Literally any number of frames can be defined as the delay period. Obviously this tends to produce a stop frame effect but when used in moderation it's a useful option.

An audible tone can be added to the source tape to provide a manual trigger point which assists the recording process, especially if you're planning to append several small sections into one long anim.

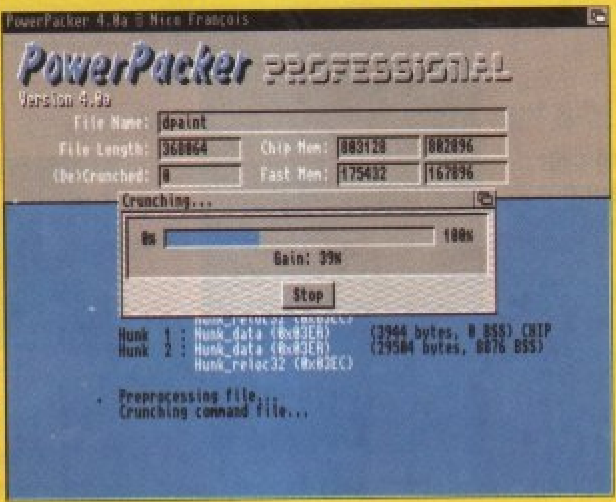
To append anims the HoldOff function is employed to join the various sections. Alternatively, you could edit and append the various parts in Dpaint4. The choice is yours as the system works with standard anim files.

A full selection of play options are available and some pleasant additions have been thrown in for good measure. In short, the new animation option is impressive, but whether it's enough to keep the wolves of the 24-bit world from JCL's door is another question.

The upgrade will set you back £150 and for that you get the ability to capture two frames in full screen mode, 11 in quarter screen, 28 in 16th screen and 52 in the microscopic postage stamp mode.

## Packing in the power – now with ARexx

Possibly the most famous and most widely-used shareware utility for the Amiga, Nico Francois's PowerPacker finally went commercial over a year ago with the release of version 3.0. Version 4.0, offering full ARexx support, is now available, and at £14.95 is still no more than you'd have shelled out for the original shareware program (as long as you'd paid your shareware fee, of course).




The program hasn't been greatly changed, but it is more efficient, carrying on PowerPacker's's tradition of becoming faster and better at crunching with each release. For example, to crunch a 370k program file, PowerPacker 3.0 took 171 seconds and saved 39 per cent, or 143,308 bytes. PowerPacker 4.0 did it in the slightly faster time of 163 seconds and saved 150,284 bytes, beating the older version by two per cent.

You might think the differences here are hardly worth talking about, but try telling that to a disk compiler! The above example gives PowerPacker 4.0 a 7k space-saving lead, which can easily be the difference between success and failure when trying to pack a disk to the gunnels.

In addition, ARexx is fully implemented in the new release. Users can script and assign up to ten ARexx macros, or choose to run an external ARexx script. Those of you who still don't appreciate the importance of ARexx should take a look at Alex Gian's new Almanac column in this magazine.

The thought of using a macro to automatically crunch and save all programs in a specific directory is almost too much for a poor disk compiler to bear...

PowerPacker 4.0 is being distributed by Europress Direct, who can be contacted on 051-357 2858. Its price is £14.95.

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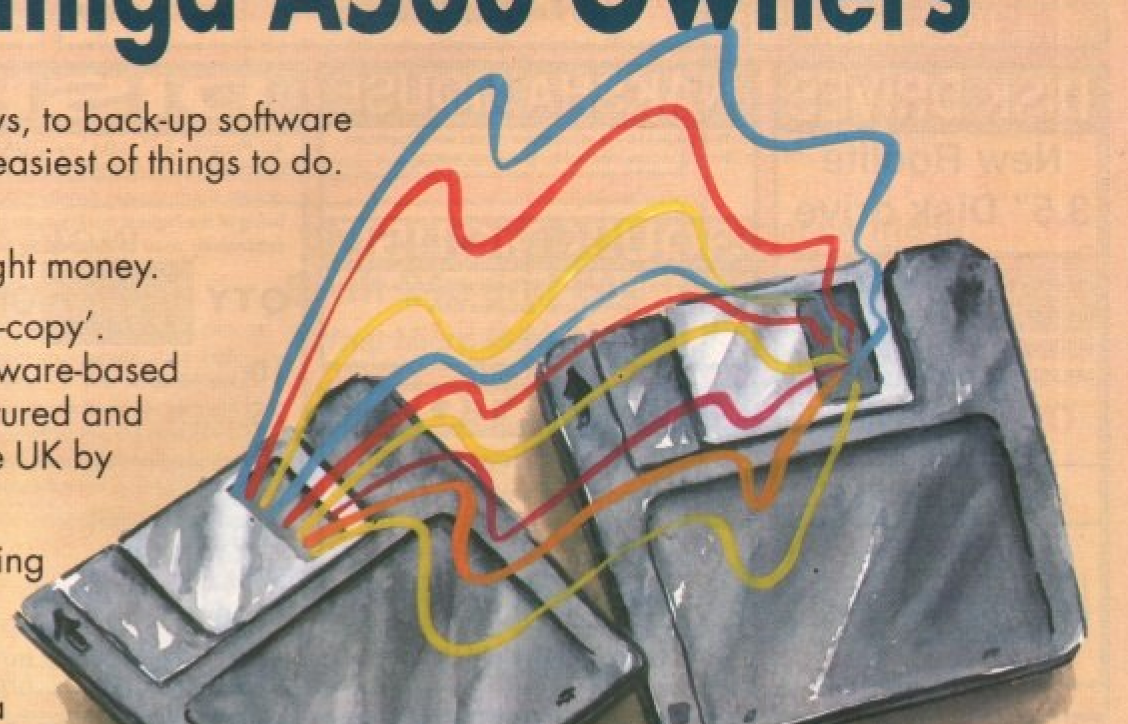
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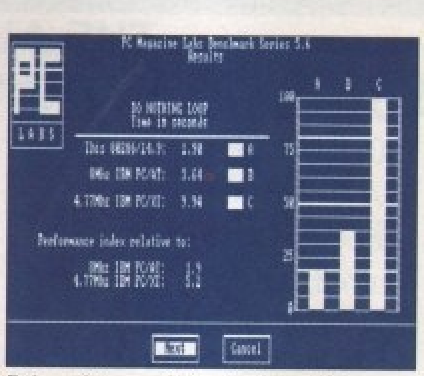
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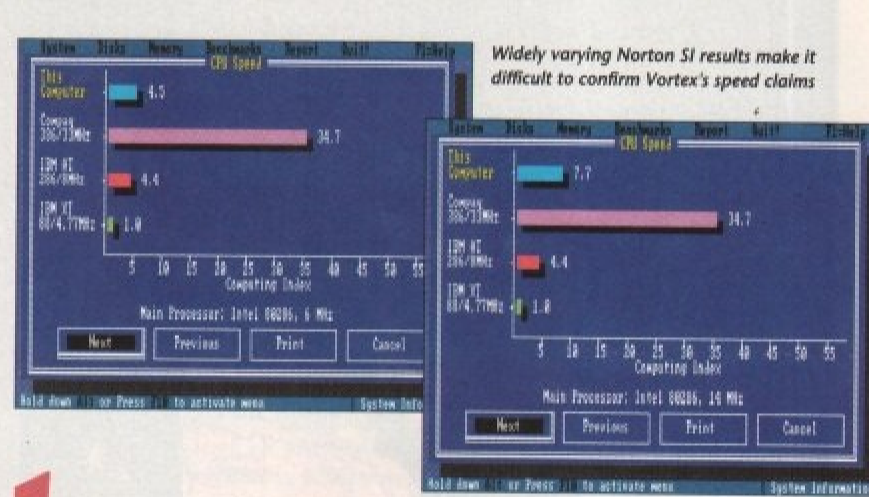
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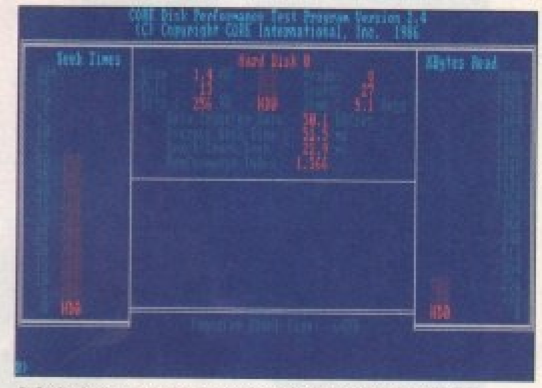
**Want to make your Amiga pretend it's an IBM? Stevie Kennedy looks at the latest emulator, ATonce Plus**



Twice as fast as an 8MHz AT, Vortex's ATonce scores well on benchtests



Widely varying Norton SI results make it difficult to confirm Vortex's speed claims



Relatively poor speeds on hard drive access let down the ATonce "file" method of partitioning

Since its initial release, the ATonce emulator from Vortex has been one of only three serious contenders in the PC emulation market, the other two being the excellent KCS Powerboard and the expensive Commodore A2000-only Bridgeboard. Initially, the unit was sold as an 8MHz 80268 emulator, but the new Plus version is clocked at 16MHz and offers Amiga owners a much better chance of running powerful PC software.

In comparison to the original, the new unit has several important improvements apart from the obvious doubling in speed. The board now sports 512k of fast RAM which is available in PC mode but which, on my A500 Plus at least, didn't seem to work in Amiga mode, and there is a slot for an optional 80C287 match co-processor.

The on-board fast RAM ensures that ATonce works on any Amiga, even half meg models, as the PC emulator always has at least that much memory to play around with. In addition, ATonce can make use of up to 6Mb of extra RAM, if available, in the form of Amiga RAM boards. This means Amiga owners can make use of more memory than the average AT will hold on its motherboard, but as 2Mb is enough to run Windows 3 with a fair degree of comfort, an old machine with a 1.5Mb trapdoor board or an A500 Plus with 1Mb card should be enough for most needs.

## Co-processor

Maths co-processors have been fairly common in PC circles for years and many programs are coded to take advantage of them, so the inclusion of them in ATonce's design is a major plus for the unit. The 12MHz 80C287 won't turn your ATonce into a dragster, but it will give it a bit more zip in the right places.

The third performance boost for ATonce comes in the hard drive department. The unit will now support up to 24 partitions, and offers two ways of setting these up. In time-honoured fashion, you can opt to reserve an entire AmigaDOS partition for the use of MSDOS programs, but this means formatting your hard drive from scratch and will only appeal to users who are buying a hard drive specifically for PC work.

The second option is to create a file on a standard AmigaDOS hard drive and treat it as an MSDOS partition. As an MSDOS boot partition must be at least 8Mb in size, this can take up a fair whack of your average 40Mb hard drive, but it's an alternative to reformatting and partitioning a whole drive.

The disadvantage with the second method is that it is fairly slow. Access times are lengthy and transfer rates suffer. It is also a bit finicky, and my particular ATonce has failed on more than one occasion to recognise its hard drive partition. With a complete partition to itself, ATonce is much happier, and booting MSDOS straight from hard drive on your Amiga becomes about as pleasurable as using MSDOS gets.

Users can speed up access to hard drive partitions constructed using the second method by following Vortex's recommendations and setting aside 200 buffers with the ADDBUFFERS command for the partition on which the PC file is kept. This helps quite a bit, but the sacrifice of 100k is simply not feasible on a 1Mb Amiga if you hope to run any power PC software.

Users looking to take advantage of ATonce's excellent multitasking properties will need a lot more memory than required for basic operation. The PC system is run as just another Amiga task, and users can flip between Workbench and MSDOS as easily as between one Amiga program and another.

Whereas a half meg machine would have been sufficient to run PC programs using the on-board fast RAM, you will now need at least 1Mb of normal Amiga memory, and probably about 2Mb for any kind of practical application. For those with smaller amounts of memory, there is an option to halt the Amiga's boot-up when ATonce is activated, thus saving memory, but ATonce really comes into its own only when running on the 2Mb and over machines.

In terms of hardware, ATonce scores highly. It is itself a very well constructed card of high quality surface-mounted design, and apart from its CMOS chips being vulnerable to static when first installed, it gives the impression of being capable of lasting years without a hardware failure.

Norton SI ratings are a tediously common speed indicator dragged out of the cupboard by every PC manufacturer on earth. ATonce pays homage to this standard by claiming a rating of 16 or more. The original unit was capable of a respectable six and a bit, but I've not so far been able to confirm the higher SI 16 rating.

According to Bench, Speed200, and SysyInfo, ATonce Plus's measurable speed varies between 9 and 14 over a long test, and can peak at something like 19 in good conditions. At no time did the straight SI tests manage to settle down long enough for a good measurement, so our figures are only provisional.

## Amazing speed

Over a series of eight bench tests, including standards like the Do Nothing Loop, string tests and so on, ATonce Plus came out at just over twice as fast as an 8MHz 80286 AT and ten times quicker than an XT running at 4.77MHz. In other words, it runs every bit as fast as you'd expect any 16MHz AT to run, which is no mean feat for an emulator.

ATonce is a fine product if you're in need of PC emulation. It runs quite quickly, has good hard drive support, and multitasks without problems. There's no MSDOS supplied with the board, which users should consider before judging its value-for-money, but until we can test the new AT286 from GVP and the updated KCS board with new software, ATonce Plus is the best PC emulator around. AC

**ATonce Plus is a product of Vortex Computersystemes GmbH.**
**Distributors: Silica Systems**
**081-309 1111**
**Price: £179 – Available now**

**Ease of use**

**Implementation**

**Value for money**

**Overall**

## Video emulation

ATonce Plus offers six PC video display modes. EGA and VGA are available in mono, and CGA in sixteen colours, and there's also Hercules (MDA), Olivetti, and Toshiba 3100. They all work quite well, though screen updates can sometimes be a bit slow.

In particular, VGA and EGA take a bit of time, both slower than CGA, the mode I favoured for its combination of colours and speed. Four colour EGA text mode is quite quick and works well with word-processors, but for very fast screen refreshes, you won't find better than Hercules, if chunky mono screens are your thing.

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# ABSOLUTE beginners

PART ONE

**Stevie Kennedy begins a nuts and bolts guided tour of the Amiga**

You've played the Cartoon Classics games to death, and you're sure there must be something more to your £400 computer than Bart Simpson and a spray can of red paint. Games are great entertainment, but you need something more sustaining to hold your interest for long periods, am I right?

This is a common predicament for new Amiga owners, but before you turn to expensive professional software as a means of using your Amiga's power, stop and think how much enjoyment you can have from the machine with little or no expenditure.

The Amiga is the perfect enthusiast's machine, and might have been designed specifically for the hobbyist. As a complex 16-bit machine with custom hardware and a superb operating system in the shape of Workbench, it offers unending opportunities to fiddle, experiment, and perform constructive tasks. So how do you get started?

This series will concentrate on helping beginners understand some basic concepts about the Amiga, and will progress from just learning how to use Workbench, to carrying out basic AmigaDOS operations, through to creating scripts, autobooting disks, and other more advanced topics. From the outset, we'll be referring to Workbench 2.04 as supplied with the A500 Plus as this is the machine most new owners will have purchased. Where Workbench 1.3 differs, we'll try to point it out, so don't worry if you have an older Amiga.

A few distinctions are now in order. We've mentioned both Workbench and AmigaDOS, but to most users the two will be interchangeable. The Amiga's operating system (OS) is actually called Intuition, and it is from this that windows, menus, screens and multitasking come. AmigaDOS is just the set of commands we use to communicate with the Amiga (commands such as COPY, FORMAT, and so on), and we issue them from the Shell by typing them in.

Workbench is the Graphic User Interface (GUI), or front end for the OS. Workbench uses Intuition to present the user with easy-to-use menus and icons, and in itself is not the operating system, though it's easier to treat it as such. Think of it as the dashboard in a car. The dashboard is connected to the speedo cables, steering columns, and electrical wiring which together constitute the car's "operating system".

OK, let's boot up the system disk. Don't know what a system disk is? It's just the floppy you boot your operating system from, so it can be a Workbench disk, a coverdisk, or a wordprocessor disk. Anything which will load up even the most basic Workbench, in fact.

## Backup first

If you haven't already made a copy of your original Workbench disk, we'll do so now. Switch on the Amiga and insert your Workbench disk. When it has booted, find a disk you can erase or use a fresh blank one, then remove Workbench and replace it with the new disk.

To format (or initialise – they mean the same thing) a floppy using an A500 Plus, click once on the disk icon then hold down the right mouse button and go to the Icon menu. Now highlight the "Format Disk" option and release the mouse button to bring up the format requester. Click on OK and the disk will be formatted cylinder by cylinder.

You should now have a formatted blank disk called "Empty". To carry out a diskcopy, again using Workbench 2.04 on the A500 Plus, replace the original Workbench disk, click once on its icon, then highlight the Icons menu again and select Copy. Follow the onscreen prompts and swap disks as the Amiga directs until the operation is completed.

Using an older A500 and Workbench 1.3, you'll have to open Shell to format a disk and carry out a diskcopy. Do this by double clicking on your Workbench disk icon, then double clicking the Shell icon. A "Shell process window" will open into which you must type a couple of simple commands. It's called a process window because the Amiga, being a multitasking machine, treats all programs as processes, and can run several at once – the Shell you've just opened is just another process.

To format the disk you'll use as a copy of Workbench, type:

```
FORMAT DRIVE DF0: NAME EMPTY
```

You'll be asked to insert the disk to be formatted and press Return, at which point the Amiga will format the disk cylinder by cylinder.

To copy your Workbench disk to the new disk, make sure it is back in the drive again and type:

```
DISKCOPY FROM DF0: TO DF0:
```

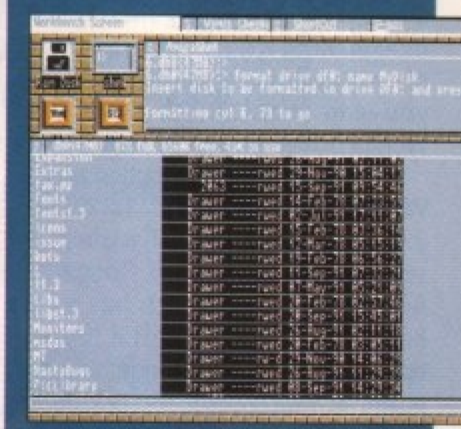
Again, you'll be asked to swap disks at the relevant times and if you follow the instructions on when to do this, the diskcopy will be completed without fuss.

There are menu commands equivalent to Workbench 2's Format Disk and Copy, and these can be used instead of the Shell commands, but on some Workbench 1.3 machines, the Initialise option will simply tell you to open Shell, so it's best to do the whole thing from there to start with.

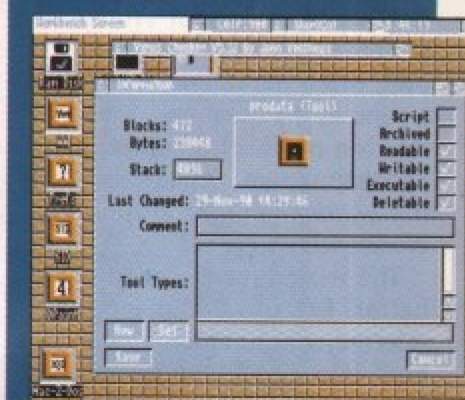
Time to pause ➤

## This month's jargon

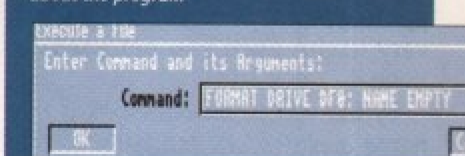
**System disk:** Any disk used to boot your Amiga with a Workbench.
**Double click:** The practice of clicking twice rapidly on an icon to activate it.
**Workbench:** The graphical "front end" of the Amiga's operating system.
**Intuition:** The heart of the Amiga's operating system which makes possible windows, menus, and multitasking.
**AmigaDOS:** The name given to the collection of commands you type into Shell.
**Backup:** a safe copy of an original disk.
**Process window:** A window opened by a program such as Shell to communicate with the user.
**Toggle:** A way of turning on and off a menu option by selecting it and marking it with a tick.



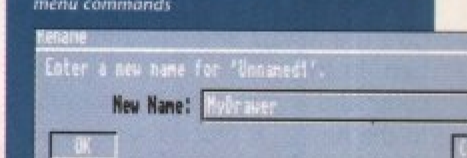
A Workbench screen with shell process windows and a window with files viewed by name



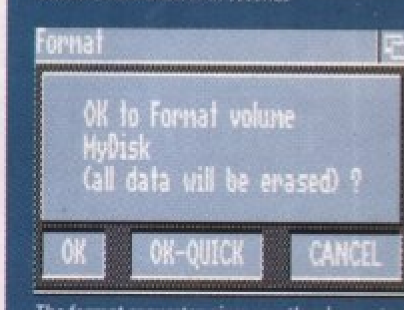

The information panel tells us a great deal about the program



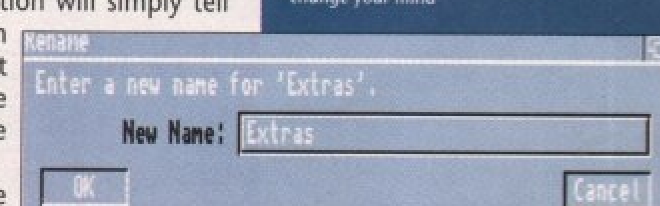

Execute command is one of the more useful new menu commands




Create a new drawer in seconds




The format requester gives you the chance to change your mind




Renaming files is a doddle

# ABSOLUTE beginners

for breath. We've booted up, formatted a fresh disk, and made a backup copy of Workbench, which is more than a great many games players ever do. Now put the original away in a safe place and reboot with the copy.

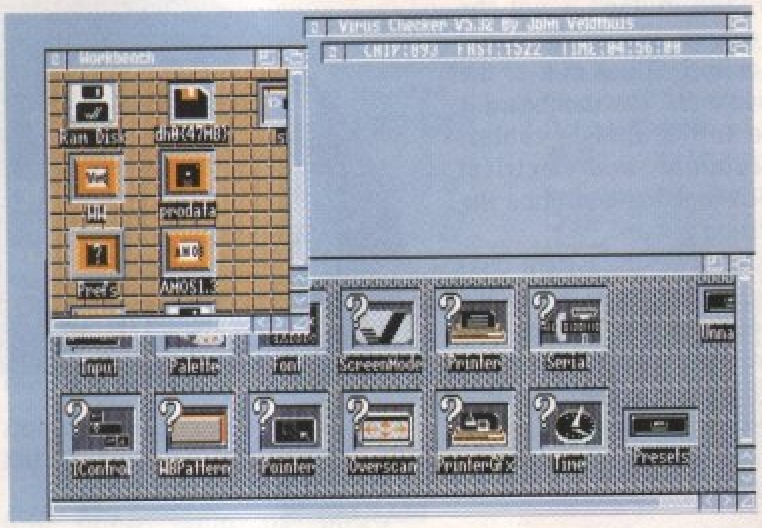
The first thing you should do when you start using Workbench is to play around – try all the different menus and click on anything you fancy. Don't just haphazardly mess about, though. Keep a close eye on the result of every click and menu selection, and you can learn a lot about the Workbench environment.

For example, the first option on the Workbench menu – for Workbench 2.04 owners at least – is Backdrop. By selecting this option, you "toggle" it. Any menu option which has a tick beside it when selected is a toggled option, and stays active until selected again, at which point the tick disappears.

When Backdrop is toggled on – the tick is present – your Workbench screen appears in a window of its own, which you can resize and shove around in the usual way. If you find this too much of a clutter, select Backdrop to turn it off and get rid of the window border around your Workbench screen.

The second menu option is even better. Execute Command, when selected, will summon a "dialogue box" into which you can type any AmigaDOS command and have it executed. This saves opening a Shell just to type one command and can be very useful once you get used to using it.

By the way, a dialogue box is the name given to any requester which asks you to answer a question – such as "Sure you want to quit Y/N?" – or give the Amiga any typed information. In this case, you just type the command and click on OK to issue it to the Amiga. A process window will open for any screen output the command results in and the Amiga will inform you if the command was of the wrong type or if it couldn't be found.




*Workbench itself can be run in its own little window!*

For now, type the command:

```
DIR SYS:
```

and click on OK. As we'll find out later in the series, DIR is the command to list everything in the current DIRectory or the one you specify when you issue the command. In this case, we've requested a list of the contents of a directory called SYS:, which is the name AmigaDOS gives to the main system disk directory (hence the "SYS").

You should see a process window open and a list of the directories and files contained by your Workbench disk will build up. When it has finished, click on the close gadget in the window's top left-hand corner.

The Window menu's first option is also its first new one. New Drawer does away with the old Workbench empty drawer icon, which you had to duplicate and rename if you created a new directory. With New Drawer, the Workbench 2.04 user just types in the name of his or her directory and it is created complete with a drawer icon in the currently active window.




*Deleting the wrong file can be disastrous*

"Currently active" means the window you most recently clicked in. The window border will be in the standard background colour if inactive, or filled with blue if currently active, so it's easy to sort out which is which.

The rest of the window menu options should be fairly obvious if you experiment with them. Select Contents will highlight every icon in the current window as if you'd just clicked once on them, Clean Up will neatly reorganise the highlighted icons into a tight pattern, and Snapshot will enable the Amiga to remember where the window was and its shape (when the Window option is chosen) or where all the icons are as well (with the All option).

The last two options on this menu are particularly flexible. Normally, an Amiga floppy disk has a lot more files on it than are represented by icons. As a rule, only drawers, executable files (programs which run when clicked on) and data files (such as text files) have icons attached. To show the normally invisible files in a window, select the Show/All Files option and Workbench will create default icons for the previously hidden files.

Using the View By option, it is possible to see usually invisible AmigaDOS files in another way. If you've got the Workbench disk's main disk window open as the current window, select View By/Name and the window display will change dramatically. All your icons will disappear and the contents of the disk's main (or "root") directory will be listed alphabetically. As long as Show/All Files is still toggled on, this will be a complete list of all files and directories on DF0:, your Workbench disk.

It won't show you what's in the directories themselves, but if you double click on the name of the directory, a new window will open showing the contents of the directory, and you should be able to double click on programs and so on to execute them as usual. The advantages are that you can see all your AmigaDOS files and access them in a limited way without opening a Shell and resorting to AmigaDOS commands, and the disadvantages are that the screen can become a little unfriendly looking and will update slower.

## Snapshot

Once you're inside the directory of your choice, you'll probably want to take a closer look at an individual icon. The Icons menu has options enabling you to open programs from the icon, copy or rename the icon, get information on it, and snapshot its position onscreen.

For now, click once on the icon of your choice then select Information. A dialogue box will appear with a variety of information on the program or drawer to which the icon is attached, including its size in bytes, which protection flags are set and unset, when the file was last altered, any default tooltypes it has, and what stack is reserved for it when run.

Most of this information will be of little use to you until we've covered icons in greater depth, but you should try to familiarise yourself with the sort of information available through the information screen as it is all of relevance. Often a problem will crop up which can be solved after a quick visit to the information screen to see if there's a tool type missing or a stack set incorrectly, and the canny user will always want to know as much about his or her files in all situations.

Next month, we'll make a start on the structure of Workbench, and look at the preferences drawer, where customising Workbench to your own tastes has never been easier. AC

## This month's commands

**FORMAT DRIVE DF0: NAME EMPTY**

This will erase and initialise (format) the disk in your internal disk drive (called DF0: by the Amiga), then give it the name "Empty".

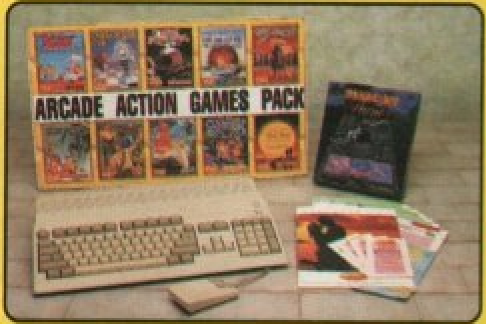
**DISKCOPY FROM DF0: TO DF0:**

This will copy the entire contents of the disk in your internal drive to another disk, which the Amiga will ask for once it has read in all the data it can. By following the machine's onscreen prompts, you can make a backup of all your Workbench disks.

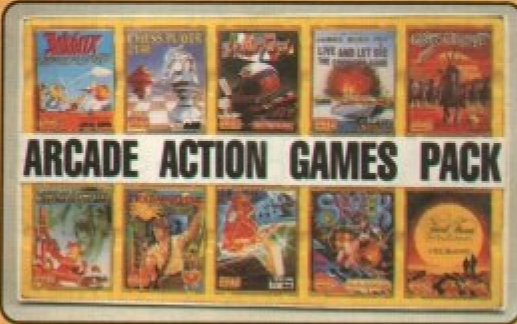
Both commands can be typed into a Shell process window or, if using an A500 Plus, can be issued using the Execute Command option from the Workbench menu.


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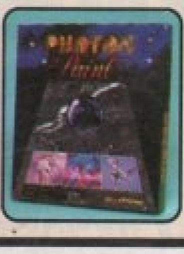



ARCADE ACTION GAMES PACK




ARCADE ACTION GAMES PACK







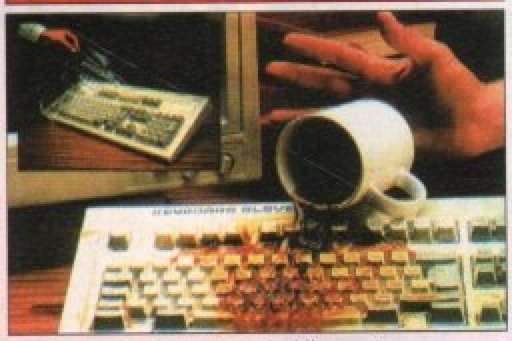


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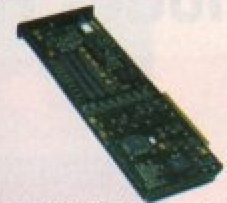
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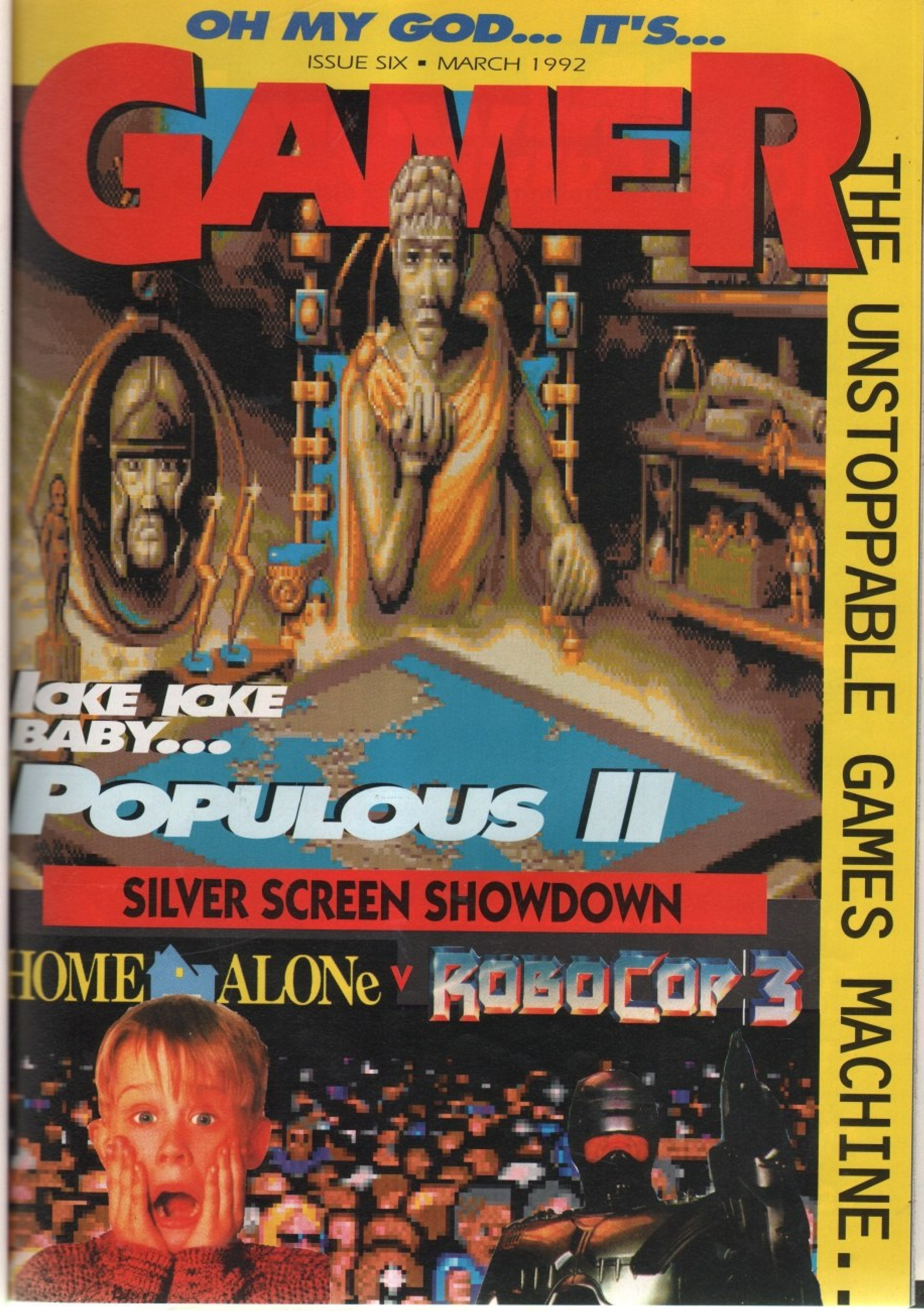
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ICKE ICKE BABY...
POPULOUS II
SILVER SCREEN SHOWDOWN
HOME ALONE v ROBOCOP 3

# ONword

**What's going to be in your disk drive soon? Read on...**

## The Mysterious Mirrorsoft Affair

It's been all change at Mirrorsoft recently. Following Bob Maxwell's impromptu deep-sea dive last year, there have been rumbles throughout the entire Mirror network.

This eventually hit Mirrorsoft and they went into administrative receivership to save them from the creditors. The label and all its products have now been bought up by Acclaim, best known for the console version of The Simpsons.

Mirrorsoft and its subsidiary labels Mirror Image, Imageworks and Cinemaware, will now continue, but it's not clear which future titles will come out on which labels.

Mirrorsoft made a name for themselves back in the days of the 8-bit machines and slipped easily in to the 16-bit market with such hits as It Came from the Desert, Teenage Mutant Hero Turtles, Predator 2 and the recent puzzle game Devious Designs.











## Donovan's brainy

On the cards from Palace Software is Brainies. It's an arcadey puzzle game by the looks of things and features a piddling 100 levels.

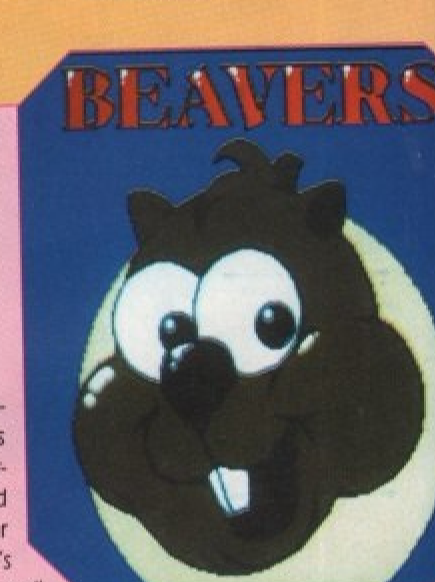
The Brainies, it transpires, are cute, fluffy balls of cute, fluffy stuff. Things are not what they might seem though, as they tend to turn slightly violent at the slightest provocation.

All you have to do is lure them on to special tranquillising pads. Simple eh? It all looks very addictive and annoyingly sweet, and I just know I'm going to hate them.

The Brainies should already have invaded by the time you read this, priced £25.99.



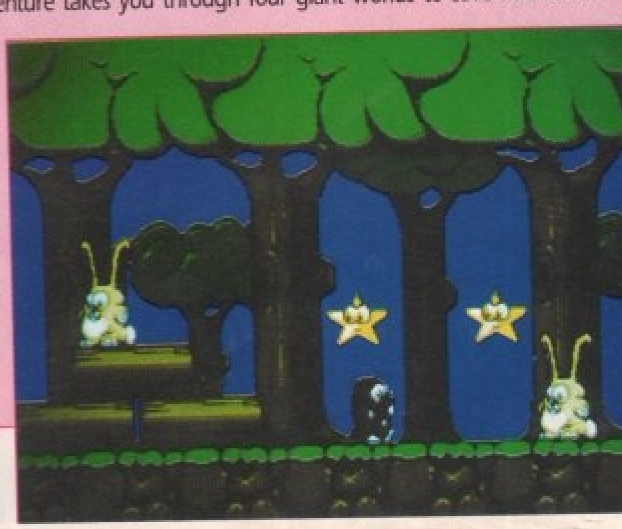
## Grandslam, Thank you ma'am




Grandslam currently have three titles lurking up their sleeves ready for release this year, two of which are sporty games. Liverpool is, surprise surprise, a footy game and apparently will feature a new viewpoint for a soccer game. Intriguing, eh? Nick Faldo's Golf on the other hand is a game about, well go on and guess.

It includes a training section based on Faldo's "highly successful" training videos, which we all ran out and bought didn't we? Oh, and there's a modem link so you can play against people in Denmark, or wherever takes your fancy. Both Liverpool and Nick Faldo should be out before the summer at £24.99.

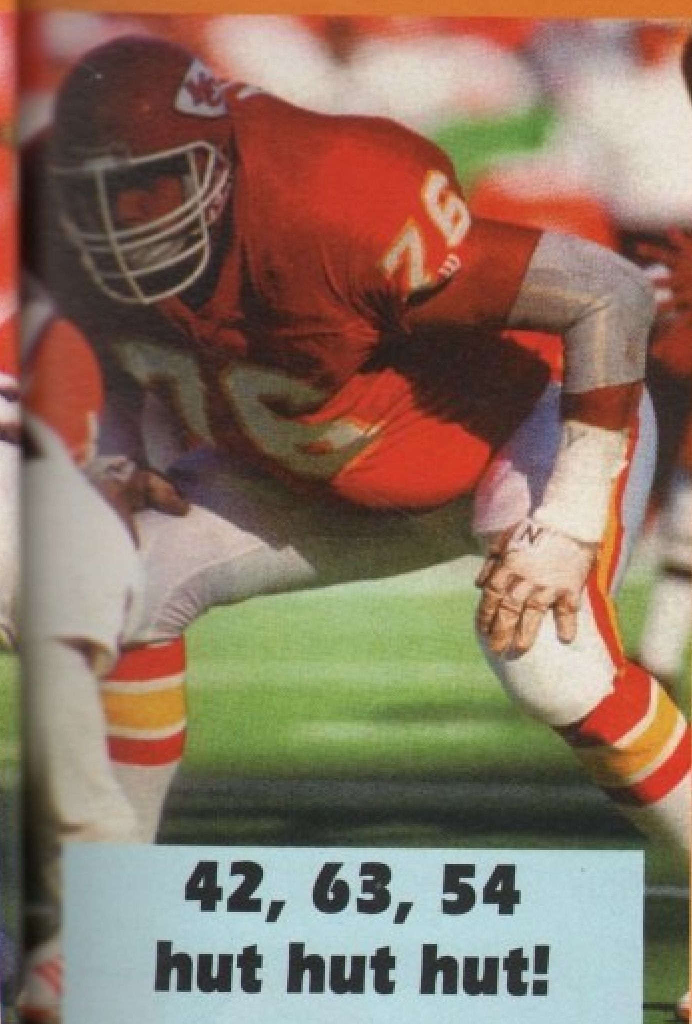
But most imminent from Grandslam is, ahem, Beavers. Starring Jethro Beaver, this cartoony arcade adventure takes you through four giant worlds to save Mrs Beaver from the foxes. Thrilling stuff, or what? It's written by the same peeps who gave you R Type 2, Forgotten Worlds and Crack Down so it should be worth a look. It should be out any minute now and costs £24.99.



# GAMER

# INNER VISION

**Why take two bottles in to the shower when you can wash and go with Gamer?**



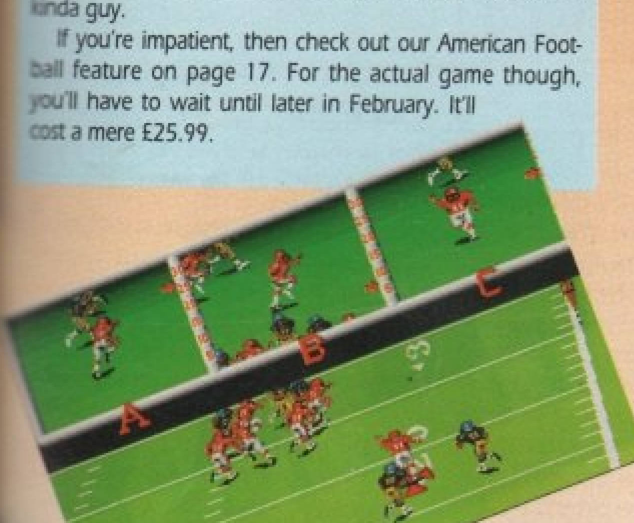
## 42, 63, 54 hut hut hut!

Hands up who's got a so-called "chum" with a Sega Megadrive. And hands up who's sick of hearing about John Madden's flamin' American Football. Thought so. Well, rejoice Amiga pals and palettes, for the ever-lovely Electronic Arts are bringing that self same console smash to your humble Amiga.

It should retain all the NFL features that makes it complete gibberish to anyone who isn't in the know, which should be good news for fans of the original. It's got options galore with variable weather, enhanced graphics, digitised screens, 350 frames of sprite animation and different pitch types.

It's written by Gary Roberts, who you've probably never heard of, but he was reputedly thrown out of college for clogging up the computer network with one of his multi-user D&D creations. So he's obviously a fairly rock and roll kinda guy.

If you're impatient, then check out our American Football feature on page 17. For the actual game though, you'll have to wait until later in February. It'll cost a mere £25.99.





## REVIEWS



## REGULARS






"Cripes", thought Squiffy," I bowled a bit of a googly there"

"Squiffy" Hotpants, one of the RAF's finest pilots and a damned fine fellow

GAMER GOLD

Great flapping silk scarves! It's those

# KNIGHTS OF

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War. What is it good for? Absolutely nothing, if the song's to be believed. But what a huge steaming fib that is. War may not be much fun at the time, but it does make a great excuse for some wazzy computer games.

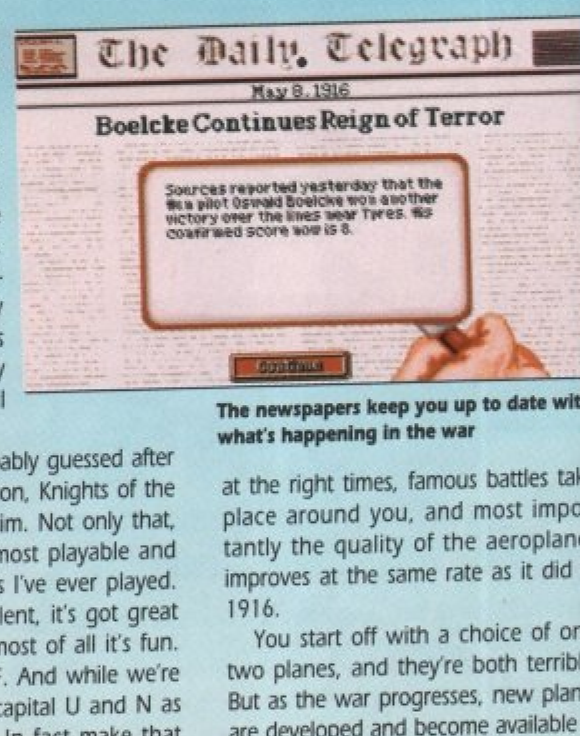
Think back over the years, all the games that wouldn't have existed if all human beings ever wanted to do was pick flowers and skip about in fields. Shoot-'em-ups would go out of the window, as would strategy and role-playing games, and pretty much every other game in the world really.

All we'd be left with would be those really exciting language tutor programs that teach you how to say "The gentlemen are waving their handkerchiefs at the Bullfight" in stilted Spanish. Gulp. So war is a bit of alright actually. War is great. At least from a games point of view.

And let's face it, Microprose have built their reputation on games about people being blown up. But somehow, all this long distance fire-and-forget nonsense is getting a bit dull isn't it? All this hi-tech japery. Where's the action? Where's the tension? The seat-of-your-pants manoeuvring? The skin-of-your-teeth dogfighting? The hem-of-your-trousers nosedives? And so on.

I don't know about you, but I think it would be a good idea if Microprose released a flight sim set in the First WorldWar. Just you, a rickety old plane and a crap machine gun against a beastly Hun in a rickety old plane with a crap machine gun.

Back to basics and all that. Sort the men from the boys. Yes, that really would be the camel's doodahs. And what's this poking out of this Jiffy bag? Lummox! It's Knights of the Sky from Microprose. Am I psychic or what?




The newspapers keep you up to date with what's happening in the war

So, as you've probably guessed after that dismal introduction, Knights of the Sky is a WWI flight sim. Not only that, but it's one of the most playable and appealing flight sims I've ever played. It's graphically excellent, it's got great sound effects, but most of all it's fun. Fun with a capital F. And while we're about it, it's got a capital U and N as well. Yes, it's FUN. In fact make that FUN with flashing neon bits and tinsel.

Now as with all Microprose flight sims, it's got enough options to keep everyone but the most miserable of anoraks happy. Suffice to say I could quite easily just spend the rest of the review rewriting the manual and telling you about each option in almost unbearable detail. But I won't. That's the kind of off-the-wall guy I am.

The game is as historically accurate as you'd ever want it to be. The front line advances and retreats just as it did in the real war, both armies take losses at the right times, famous battles take place around you, and most importantly the quality of the aeroplanes improves at the same rate as it did in 1916.

You start off with a choice of only two planes, and they're both terrible. But as the war progresses, new planes are developed and become available to you. At the same time, the enemy planes are becoming more and more deadly, so it's up to you to keep one step ahead.

Also adding to the overall "feel" of being involved in a real war is the ongoing battle to be an Ace. Once you've scored five kills in the air you qualify as one of these elite pilots, and can keep track of your performance against the other aces.

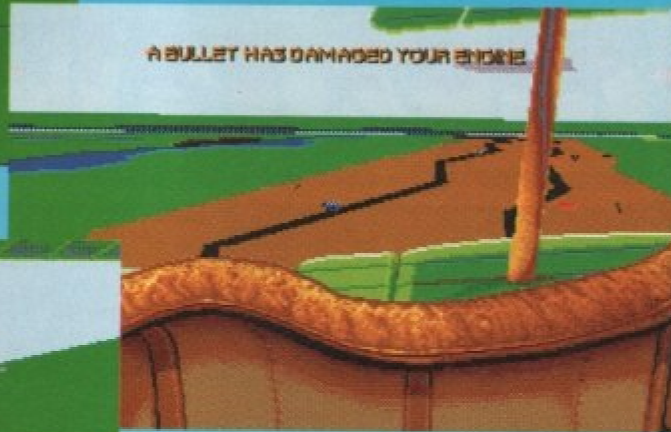
If you feel that one of the enemy aces is getting a bit big for his jackboots then you can challenge him to a duel

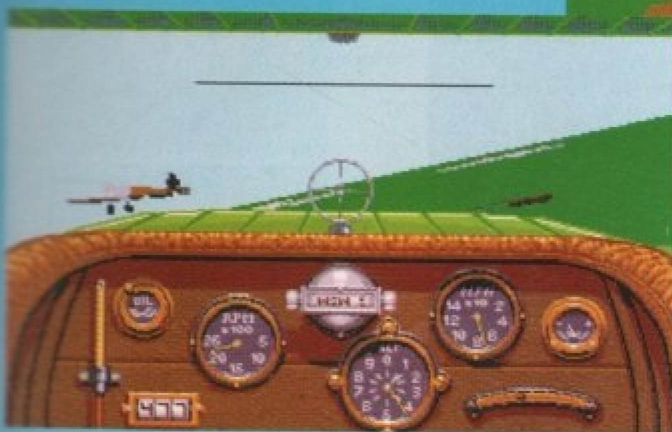



Dear Mr Army Man. Please excuse Squiffy from the war as he has a delicate chest. Signed Squiffy's Mum



Tally ho, pip pip, come on you bally hun etc etc



Come here you slippery wee knockwurst. And stop sniggering, Mutley

"I say", exclaimed Squiffy, "What's that burning smell?"

**VISION**

GGGG

Fast, smooth and detailed 3D, with excellent mood pictures in-between.

**AUDIO**

GGGG

A great period tune and "spiffing" chugging engine noises.

**PLAYABILITY**

GGGGG

Easy to fly, and plenty to see and do. It's just like Chester Zoo.

**ADDICTION**

GGGGG

Can you survive the whole war? Probably not, but you'll keep trying.

**92%**

# F THE SKY

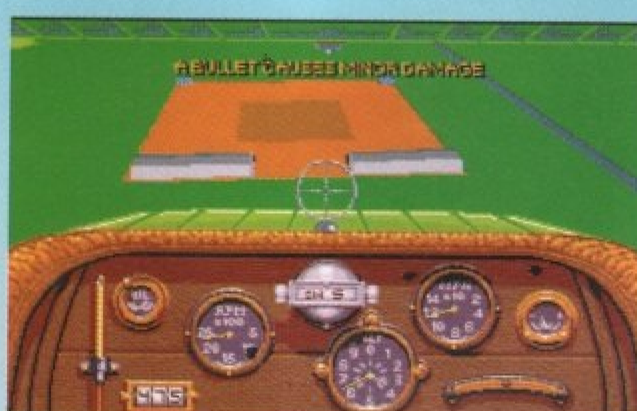
and go and slap him about a bit. Mind you, they can do the same to you so don't become too cocky.

All of this adds up to give you a real feeling of involvement. You can really start to get quite badly riled when one of the Hun aces keeps shooting down British scout planes. Quite badly riled indeed. And you can't help but cheer out loud when you hear that one of your lads has sent the Bosh packing. It can get quite embarrassing actually.

But before you can sample these delights you must jump in the seat and take to the skies.

First you choose your plane, paying close attention to the weaponry and speed of your chosen steed. Then you opt to fly a mission.

The mission will usually involve one of four general tasks. You might be asked to act as an escort to another plane, or you might have to attack an enemy installation or convoy. You could be asked to shoot down an enemy balloon, or it may just be a simple patrol mission. If you don't like the look of the mission, you can decline but this will affect your standing as a pilot and could lead to you getting mashed potato flicked in your eye in the officers' mess. Not much fun at all.



Despite the bullets riddling his kite, Squiffy still managed to divebomb his own airfield

This is all merely a taster, though, for the actual flight scenes themselves. All the details are there. Little French villages with churches and houses, the constantly shifting front line with its trenches and flak guns, right down to the little truck convoys that trundle along the tree-lined roads just waiting to be blown to pieces. Gorgeous.

There are 14 different viewpoints to give you a good overall look at what's going on around you. These aren't just there for the sake of it either, as you don't have any posh instrumentation to locate the enemy. You'll have to constantly keep your eyes peeled for "bandits at 3 o'clock". Ooh, I always wanted to say that.

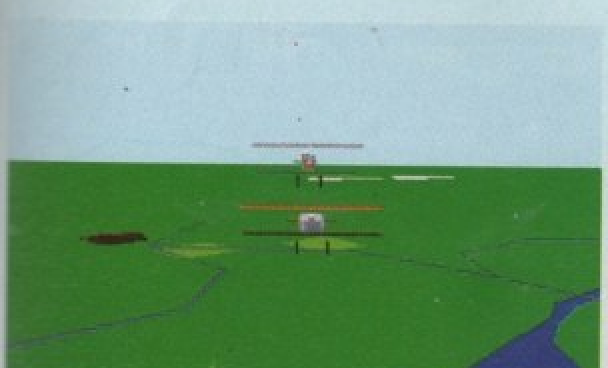


And when the fiendish Hun come at you, and believe me they will, you don't just see them as tiny dots in the distance. They have a nasty habit of flying right over your head and then swooping about you all over the place. As the pilot you get to see it all in glorious 3D, and you'll soon be swaying in your seat and ducking under the desk to keep away from them.

It's very, very difficult to sum up Knights of the Sky in only two pages. It's even harder to put in to words just what it is about the game that's so appealing. Maybe it's the sheer joy of having a flight sim where you actually get to fly and fight intelligent enemies rather than just using autopilot and lock-on weapons. It could well be the large dollops of storyline and historical developments that've been squeezed in between missions.

It's probably just the fact that it's really good fun to chunder around the place and look at the sights. Add to this the best ever intro scene in the entire universe and you've got a winner. In a nutshell, Knights of the Sky is the most original, playable and lovable flight sim I've ever played. Most pleasant indeed.

**Daniel**



I've got you now, Tommy Englunder Scweinhunden



I've got you now, Heinrich Von Helmenschtompenfurten

Take a side step to your left, Colin...

# KNIGHTMARE

**MINDSCAPE ▪ £30.99 ▪ 1/2 meg ▪ Mouse ▪ Out now**

Now when this game came into our office, half of me was thinking "At last a game to give Dungeon Master a good kicking" and the other half was thinking "Wait a minute, isn't Knightmare that crap kids' programme on ITV?"

Knightmare is that terrible show where they get four kids and blindfold one of them by sticking a massive helmet on top of his/her head (this normally happens to the smallest who is always called Colin or Jeremy).

The other three kids get the chance to kill Colin by telling him to walk around a computer-generated world into traps and clutches of giants, witches, trolls etc, etc. The three kids aren't supposed to kill him, but most of them couldn't find their way out of Woolworths, never mind a dungeon plagued with goblins and giants.

Yes, the normal team line-up on Knightmare includes Colin, our intrepid blind adventurer; David, the only kid who has any adventuring experience, and playing Hobbit on his Spectrum doesn't really count anyway; Susan, whose idea of a good time is listening to Jason Donovan records and who hasn't a clue which planet she is on, let alone succeeding at Knightmare; and Gary, who'd rather go and watch Crystal Palace instead of playing this game. He finds programmes like This Is Your Life interesting and full of humorous anecdotes.

To make up the rest of the team there are the presenters and errr, welll, uumghrtt, hmmmf, sorry, I'm trying to stop myself laughing. Hold on a minute... Right, I'm OK now. The main man is called Treguard who looks uncannily like a slim Brian Blessed.

Treguard's little helper – who's not one bit of help at all – has the really depressing name of Pickle. Yes, Pickle really is in a bit of a pickle. He looks like Robin Hood but with wispy blonde hair, pointy ears and painted on freckles.



**Will you just look at the size of those ears!**

But to the game! On loading, you are treated to a wonderful rendition of the Knightmare theme music. Next you have to define your four team members by typing in their names and deciding their professions (Adventurer, Gladiator, Samurai, Wizard, Priest or Genie) and breeds (Man, Woman, Goblin, Ogre, Ghoul, Elf, Troll or Insectole).

After you have filled in all the gubbins about your team, it's time to start playing. Knightmare can be controlled with the mouse on its own, or a combination of mouse and keyboard. I found that it was a lot faster and easier to move your character around using the keyboard.



My first impression of Knightmare was that it doesn't half look like Captive. Well, fact fans, it just so happens that Tony Crowther, who did the excellent Captive, also – shock, horror – did Knightmare.

You start the game in the forest outside the dungeons. This terrible place hides killer bunny rabbits, mischievous elves and a big beastie which is indescribable. The control method for fighting these awful creatures isn't quite the easiest in the world. You have to click your right mouse button on one of the hand icons and this will drop a scroll down from which you can choose whether to punch or kick. You then click with the right button again to activate the desired effect. In the middle of a battle this is a bit confusing, but you get used to it.

Once you are inside the dungeon things really get going, and to be honest it's as good as Dungeon Master. Treguard and Pickle give you friendly advice along the way, but tend to just state the obvious.

Good weapons in Knightmare are few and far between. For instance, I was wandering around the dungeon looking for a decent aggressive implement when lo and behold I spotted what looked like a sword. Imagine my dismay when I picked it up and Pickle kindly informed me that it was actually a pen-knife!

The game has four quests, so it will keep you going for ages. I haven't managed to complete the first quest yet – it's been a long time since I've played Dungeon Master.

Overall Knightmare is a really good game. It has astounding graphics which lend it a great atmosphere. The sound is adequate, with suitable swishes, grunts and thumps. The level of difficulty is set quite hard, so beginners watch out – you will be frustrated (I was).

If you loved games like Captive, Dungeon Master and their ilk, then no doubt you'll have already got your coat on to rush down the shops. Forget the title "Knightmare" – think of the game more as a Dungeon Master for the 90s.

**Jonathan**

**VISION** GGGG
Wonderfully detailed graphics that give the game atmosphere.

**AUDIO** GGG
Adequate sound effects with a great rendition of the Knightmare theme music.

**PLAYABILITY** GGGG
The game uses a simple but effective control method making it easy to play.

**ADDICTION** GGGG
Not a game for the beginner, but for those Dungeon Master fanatics it will give you sleepless nights.

**86%**



**Biffa Meatbasher wanders through the dungeon with only a pen-knife to his name!**



**The funny bearded one speaks, while Pickle just looks plain funny!**

## Look out - he's back!

# PAPERBOY 2

No window is safe. No fence is too high. The paperboy is determined to deliver the paper to his subscribers any way he can. Tossing papers left and right, riding in three directions, jumping anything, this free-wheeling carrier visits more neighbourhoods and houses, faces more targets and obstacles, in more vivid colours than ever before.
Plus, rad stunt riding and BMX tracks in bonus rounds. Choose to ride as either Paperboy or Papergirl too!



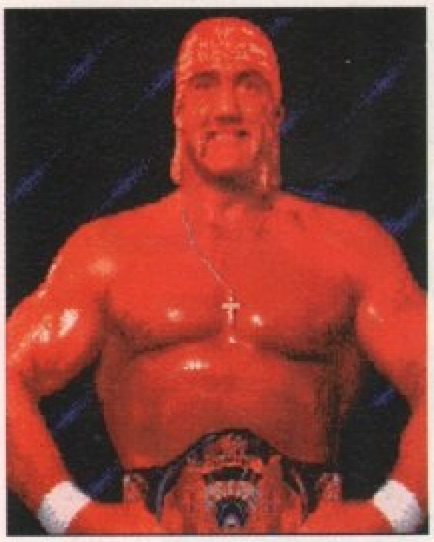


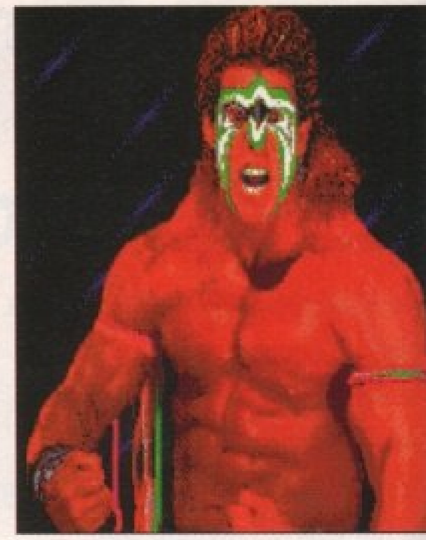


MINDSCAPE

For your local dealer, contact **Mindscape International Ltd,** The Coach House, Hooklands Estate, Scaynes Hill, West Sussex RH17 7NG. Tel: 0444 831 761

WWF – Watery Wheelchair Flanges...





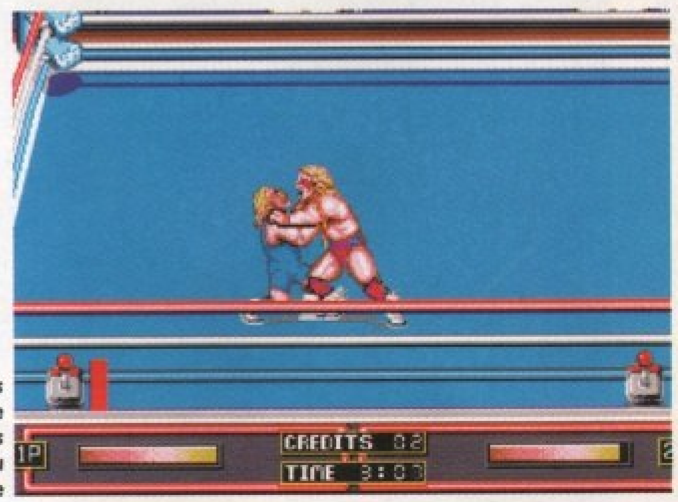
# WWF WrestleMania

**OCEAN ▪ £25.99 ▪ ½ meg ▪ Joystick ▪ Out now**

Now I can remember Saturday mornings when wrestling was on TV from some dingy town hall. Ah yes, it brings back many happy memories. Featuring great wrestlers like Big Daddy, Giant Haystacks and Fit Finlay, it has long since passed away from our screens.

Now it's back, it's bad, it's sweaty, it's most amusing and more importantly it's American. Yes, those entertainment fanatics from across the Atlantic have come up with the World Wrestling Federation – WWF for short. It's huge in the States and is speedily becoming as popular as the Turtles or the Simpsons here in good old Blighty. The only ways you can watch WWF is to own Sky television (where it's shown twice a week) or by buying one of the many WWF videos.

The WWF is made up of many wrestlers, all with their own special moves and gimmicks. For instance, The Undertaker disposes of his victims with his Tombstone move and then puts his hapless opponent into a body bag. The Hitman takes care of the other wrestlers by applying his Sharpshooter hold, which basically means twisting the opponents' legs until they break off.




**WWF owes more to the Three Stooges than you might realise**

The star of the World Wrestling Federation, however, is Hulk Hogan, the original all-American hero. The guy has blonde hair, huge muscles, rips his shirt off a lot, and has won the WWF championship three times, so getting the wondrous WWF belt.

It's one-quarter wrestling and three-quarters bad acting, thus making it entertainment rather than sport. Anyone who watches the WWF regularly would probably love to jump into the square circle and go a few rounds with the Hulkster or the Million Dollar Man, and now thanks to Ocean your dreams or nightmares can come true... well almost.

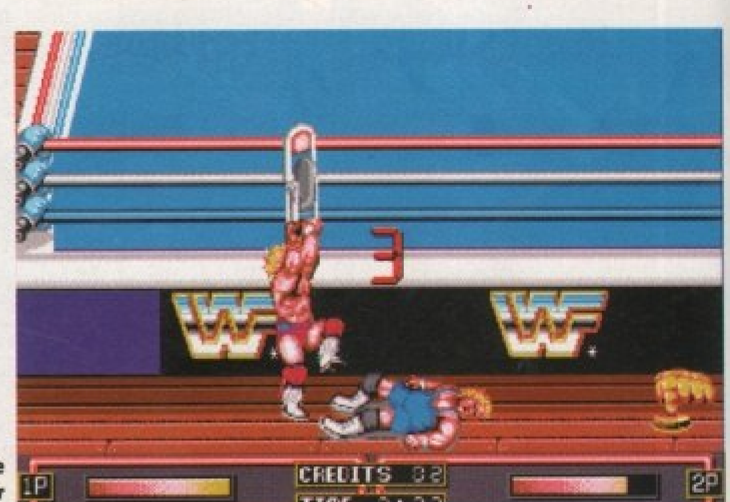
Before you start the game you have to choose your wrestler. I'll take the form of a WWF announcer for this part. The first wrestler from the United Kingdom, weighing in at 276 pounds, Theee Britishhh Bulll Dogggg!!! (I can't keep this up for much longer). Theeee, oh sod it, the other two are the Ultimate Warrior and Hulk Hogan.

So you've chosen your muscle bound wrestler – now for your opponents. You face the wrestlers in the following order – Mr Perfect (who's less than perfect), The Warlord, Million Dollar Man, The Mountie (He always gets his man, ho ho) and finally the baddest of them all, Sergeant Slaughter.

One thing you'll notice about the WWF is that everyone is so flippin' loud – the wrestlers shout their mouths off at just about everyone. As if by magic, the game also contains a lot of yelling and




**Ladies, The Ultimate Warrior shows you a foolproof way to pick up men**




**Aargh! It's the Texas Deckchair Massacre!**




"Slow down you fool! I've got my hand stuck in your trunks!"

**VISION**
GGGG
Recognisable caricatures, but not enough variety.

**AUDIO**
GG
Limited, but good for what there is.

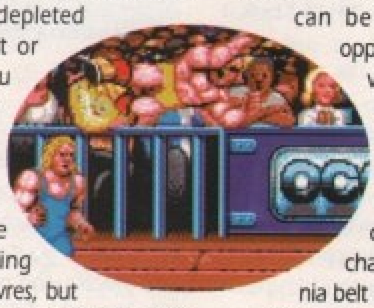
**PLAYABILITY**
GGG
Good fun, but too exhausting against the computer.

**ADDICTION**
GGG
Cute for a while, but ultimately too repetitive.

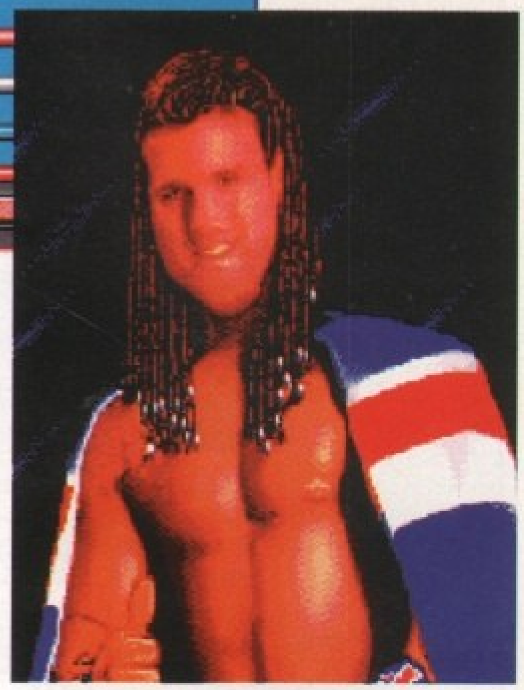
**77%**

screaming. Before the start of each bout, your opponent will have the chance to say what he thinks of you and you, of course, can scream something back at him. This doesn't improve the gameplay, but it gets you in the right mood for a good scrap.

So you've chosen your wrestler, you've yelled at your opponent, now for the actual bout! Each wrestler has a strength indicator at the bottom of the screen. This strength–ometer determines how quickly you can recover from being knocked on to the canvas, or how quickly you can throw off someone who's pinning him down. Your strength is depleted when you are hit or kicked or when you are thrown to the floor.



Each wrestler can perform several moves. These are mainly punching or kicking manoeuvres, but each individual has his own special move. To execute yours you must first be in a grapple with your opponent. Then you waggle the joystick left and right to build up your grapple strength, which is represented as a growing bar at the side of the screen. The first wrestler to make their bar reach maximum height wins the grapple. The winner then executes his special move on the other wrestler.

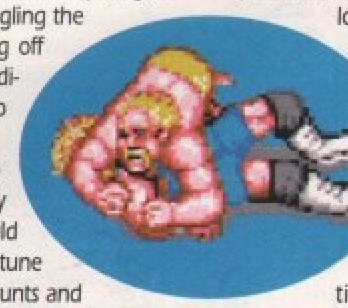


In true WWF style, the action doesn't just take place in the ring – you can battle outside it as well. Outside the ring you get the perfect opportunity to do some real damage to your opponent by banging him across the head with a steel chair which just happens to be lying nearby.

Each bout lasts a maximum of five minutes. During this time the match can be won by pinning the opposing wrestler to the canvas for a count of three seconds. If there isn't an outright winner by the end of the five minutes, then the match is declared a draw and your challenge for the Wrestlemania belt is over.

If any competitor is forced out of the ring, a 20 second clock is started. The clock is reset once both wrestlers are back in the ring but, should any competitor remain out of the ring long enough for the clock to reach 20, the match is declared void and again your challenge for the Wrestlemania belt is over. This voiding or drawing of the match can be very annoying, especially when you've got to the final wrestler and he decides to stay out of the ring.

WWF is yet another licence game from Ocean. The word that would sum up WWF perfectly is "average". The gameplay is really dodgy – the way that you have to waggle the joystick to get one over on your opponent is very frustrating and most of the time you get stuck in a loop of waggling the joystick, losing, getting off the canvas and immediately going into another grapple.



The sound isn't too bad, but it certainly isn't as good as it could have been. There's a tune and a smattering of grunts and cheers, but for a lot of the time there's no sound at all. It can sound a bit odd, suddenly having the crowd burst into spontaneous applause and then stopping dead. What there is is good, but I can't help feeling that more is needed.

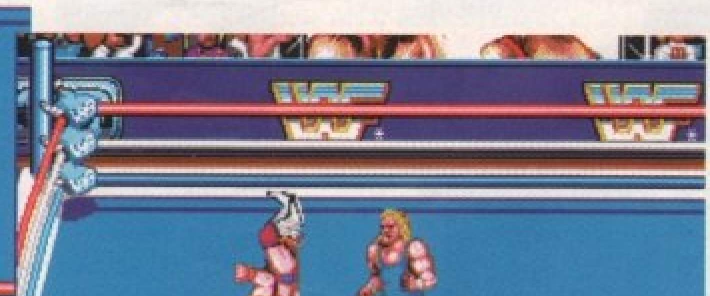
After doing this for a minute or so you are so knackered that you don't feel like playing the game. On the other hand, the graphics are really quite good – the wrestlers look like their real-life counterparts and little touches like the video screen and the way the ropes "boing" after someone bounces off them really improve the look of the game.

Oh well. If you're a true WWF fan then you'll probably buy this game along with your Hulk Hogan fluffy slippers and Mr Perfect duvet and pillowcase, but the rest of us would be better off buying a decent beat-'em-up or saving the money for a WWF video. If Ocean had maybe spent a little more time on the gameplay, they would have had a classic on their hands. As it stands though, the message is: "Don't believe the hype".

**Jonathan**




My, for such fat gets, they really are quite spritely




An exclusive shot of the WWF body – popping finals

I would've forgotten the little bleeder on purpose..

# HOME ALONE

**ACCOLADE ▪ £24.99 ▪ 1 meg ▪ Joystick ▪ Out now**

When the McCallisters decided to go on vacation, they forgot one very important thing...Kevin!

Yes I suppose it had to happen sooner or later. Macaulay Culkin, the million dollar star of Home Alone, has been shoved from large screen to computer screen and no doubt he'll be getting another huge juicy cheque through his letterbox for this little escapade.

For any of you out there who have been living in a timewarp or haven't even heard of Home Alone or Macauly Coalbin or whatever the little git is called, I'll give you a rough plot of the film.

By mistake, Kevin (Sir McCauly Cooking) has been left at home, while his parents and the rest of his family go on vacation to Paris. By strange coincidence, when the parents realise Kevin is at home, all the flights back to the good ol' U S of A are fully booked and all the telephone lines are down. What all this results in is Kevin running around the house stuffing his greedy little face with all sorts of food and doing several other things that his parents wouldn't normally allow.

Now amid all this malarkey (or should that be Macaulay) there are two inept burglars, Harry and Marv, trying to rob Kevin's little home – sorry, mansion. Being like any other eight-year-old with absolutely no brains whatsoever, Kevin sets traps around his home to prevent these naughty chappies coming in and stealing his micro machines, or something along those lines – you get the general idea.



The game is in two phases. The first starts at 8 o'clock and Kevin is Home Alone. He knows that Harry and Marv will be arriving at 9 o'clock. So using my wonderful Carol Vorderman mathematical skills, that leaves just one hour for Kevin to set his traps. There are 26 objects for him to find and by using these objects he can set his traps.

This phase doesn't take a lot of brainpower – it's just a matter of picking up objects and putting them down again. In fact it's so easy, even Jeremy Beadle could do it. You can't just place the objects anywhere you want, but there is a whacking great big yellow cross telling you exactly where to put your devious traps. Somewhere in the house is Kevin's BB gun, which comes in very useful later on.

In phase two the burglars will enter the house and to try to catch Kevin. Kev must avoid Harry and Marv and at the same time lure them through the traps. You must be careful not to trip them yourself, though. The traps will inflict varying amounts of damage on the burglars, but Harry and Marv won't always spring them. The burglars are much more likely to trip traps if they are near Kevin and chasing him.

Kevin can also inflict damage upon the useless duo by firing his BB gun, but you can only damage them once – after that all the other shots simply stop the burglars in their tracks, giving Kevin a chance to run away.

Poor Kevin then just has to last out until his mom gets home.

Home Alone could have been a truly wonderful game, but, and this is a big but, it is too easy.

After playing just a few times the first phase becomes more of a chore than a fun-filled romp. The second is much more fun, but even this section gets boring after a while. Having said that, the graphics are very nice indeed, especially the digitised picture of Macawly Bumfluff.

There aren't too many sound effects, but what really puts the game down is the awful music which drones on and on and on and Arist... (yes we get the idea – Ed). The music can be turned off which came as a great relief to everyone in the office. Home Alone can be summed up in one word – "repetition". Oh, and give it a capital "R".

It's good for one go, but it won't keep you at your computer for months and months and mon... (stop that right this minute – Ed). Plus the game is 1 meg only. Surely more memory means better sound and graphics? I want the whole film for that sort of memory!

It could have been one of the best film licences, but Home Alone has walked into the graveyard of doom and jumped inside a coffin beside Darkman, Ghostbusters 2 and other such film licence flops. What a pity. Ha ha ha ha ha ha ha! Bye bye Macaulay.

**Jonathan**

**VISION** – GGGG
Graphics are the best part of the whole game.

**AUDIO** – GG
Abysmal theme music with not many sound FX.

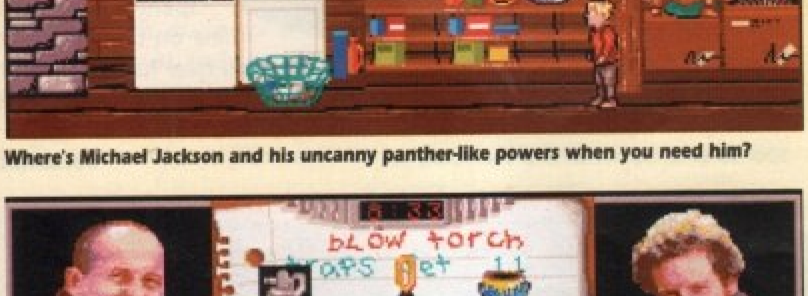
**PLAYABILITY** – GG
You won't find much of that in this game.

**ADDICTION** – G
It will last you a couple of hours...at the most.

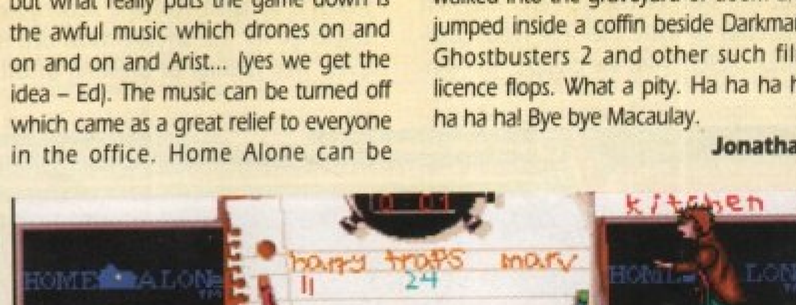
**35%**




Where's Michael Jackson and his uncanny panther-like powers when you need him?




Stop grinning you naughty burglar, you'll get yours pal!




Harry collapses in shock after seeing young Mr Cheesecake's pay cheque



Is it a bird? Is it a plane? NO! It's....SuperLemming! (See if you can spot him, kids)

Oh no!

# MORE LEMMINGS

**PSYGNOSIS ▪ £24.99 standalone/£19.99 data disk ▪ ½ meg ▪ Mouse ▪ Out now**

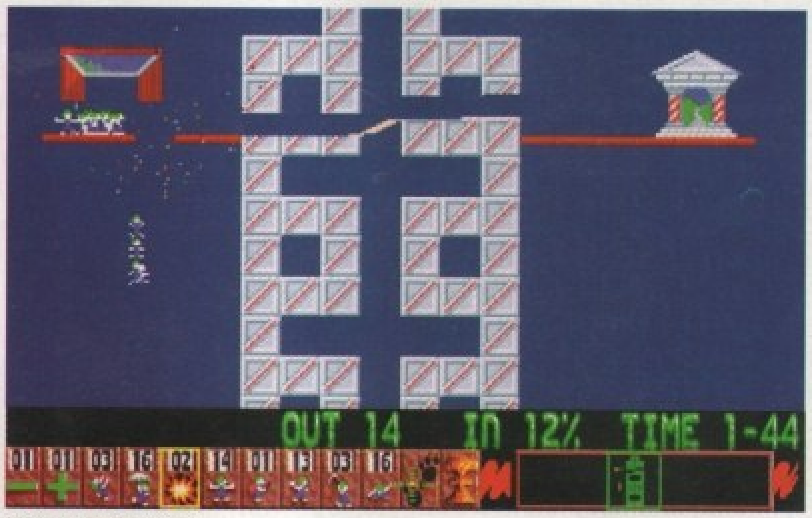
Never has a game been so aptly titled. Barely has the world settled down and stopped wibbling over the software phenomenon that was Lemmings, than Psygnosis release a further 100 levels. New traps, new layouts, new strategies. And again, the world puts on a blue jumpsuit and goes "Wibble".

Well, to get this out of the way, this is not Lemmings 2. Not in any way, shape or form. No no Nanette. It's merely another 100 levels for the original. There's no new lemming skills, no new sprites or anything like that. It's only to keep you knee-deep in Lems until the proper Lemmings 2 and the Lemmings Construction Kit are ready. They just won't let it lie, will they?

Now I'm sorry about this next bit, but there's always the faint chance that there's someone out there who doesn't know what all this Lemmings palaver is about. So I'm going to have to explain it all again aren't I?

OK, you have to make sure that a certain number of lemmings make it from one end of the level to the other without falling foul of traps, pits and their own crass stupidity. You see, lemmings have slightly less intelligence than a small pile of mung beans. They're utter twonks.

You, the gorgeous gamesplayer, can help them overcome this natural intellectual bypass by endowing individual lems with special powers. These powers allow them to dig, climb, build bridges, block, float and explode. You will, however, only have a set number of powers that you can bestow per level. For instance, the way forward might seem obvious if you had some bridge builders, but the chances are you won't and you'll have to think your way around the problem. I know all of this is almost written in computer folklore, but some people seem to have spent the last few years hiding behind the sofa when it comes to games.




**Well, I almost made it...**

So, these new levels. What are they like? Well, they're good. Fairly obvious that, but they really are good. It's a bit like finding out that they've just made a whole new series of The A Team. More of the same, but just what you were waiting for anyway.

We were a bit stuck to begin with, as we were having trouble getting past the Tame levels (it's not "Fun" any more, it's "Tame"), but then out of the blue came a letter from Robert Phelps in Stroud. Good ol' Bob had sent us all 100 level codes. Staggering, or what? The flamin' thing hadn't been on sale five minutes and he'd done the lot! A right smarty boots and no mistake! So, thanks to Robert we were able to have a good look at any level we wanted. And they're all cracking.

The Tame levels are, as you can guess, fairly tame. Yes, I had trouble with them but then I never was any good at the original. These levels can be breezed through by yer average Lemmings supremo, and so they're best for people who've bought the standalone version and don't know what they're doing yet.

After that, things get harder and some of the levels are destined to go down in history as complete bar stewards of our time. The Superlemming level, for instance, looks really easy but the timing needed is phenomenal. Scary stuff. And the others pose similar seemingly impossible tasks that kept us from the pub for many lunchtimes. Well, almost. There's not much else to say, really. If you're a Lemmings fan then this is just the thing to keep you awake until God knows when, and if you've never played Lemmings then you've got two options. Either buy the original and this as a data disk, or just buy these 100 levels as a standalone version.

My only reservation is that the price is perhaps a bit much for a data disk, but I guess Lemmings addicts will go to any expense for more of those green haired japesters.

A worthwhile addition.

**Daniel**

**VISION** — GGG
Tiny but endearing sprites with detailed scenery.

**AUDIO** — GGG
Some hot new tunes, and that well loved "Oh no!" squeak.

**PLAYABILITY** — GGGGG
Still as playable as ever, if a tad expensive.

**ADDICTION** — GGGGG
The winning formula does it again.

**94%**




**He he he. See ya Lemmings. Byeee**




**Urgh! A poor little Lem gets squished in the snow**

Dear Points of View, I wish to complain about...

# MOONSTONE

(12)

MINDSCAPE ▪ £25.99 ▪ 1 meg ▪ Joystick ▪ Out now

You know the trouble with beat-'em-ups? They're just not violent enough. Controversial, I know, but true. What's the point of beating the biz out of silly little sprites if they just fall down and go "peep"? We want blood and guts! We want entrails and schlock horror gorefests! Nurse, nurse, the ointment! And if all this sounds a bit too graphic for you, then I suggest you go and read the Home Alone review. Go on, I think it's best if you leave. You'll only end up feeling sick.

On the other hand, if you're the sort of person who can watch Hellraiser while eating beans on toast, the sort of person who can read Stephen King before going to bed, the sort of person who thinks that The Evil Dead is an important cinematic statement, then you'll love this game.

So, only the sturdy ones left eh? All the wimps have gone off to read about Macaulay Smeghead's slapstick antics, so we can get on with the gratuitous bloodletting. Heh heh heh. Evil cackle, crash of lightning, eerie organ music etc etc.

Ahem. Well, the plot is the usual gubbins about ancient quests for magic stones and druids and monsters. All fairly predictable. Some druid blokes decided to use four knights to get the Moonstones from the valley of the Gods. You, and up to three other "chums", can take control of a knight each and wander around the four territories hacking the resident beasties into a slimey red mush. Hours of family fun? Let's see...

Each knight starts the game in their home village, where they can return for extra lives. Each village is situated in one of the four territories – the Northern Wastelands, the Misty Moors, the Great Forest or the Wetlands. You move your little knight cursor where you want to go, at least as far as your limited time will allow, and then press Fire to enter the location.

If you don't want to enter a location then you can use your turn to move further across the map, thus heading for an easier territory, perhaps. Each territory contains six lairs where you fight the monsters, and a more helpful location such as a city where you can replenish energy, buy bigger weapons, gamble your precious money away and other such niceties.



The crux of the game, though, is the lairs. Somewhere in each territory there is a key. Only with all four keys can you enter the valley of the Gods and try to win a Moonstone from the Guardian. So to find the keys you must fight through all the lairs, in any order you want and see what goodies they hold.

You might find gold, or some spells or even a spanking new sword. Or you might find bugger all. Of course, the other knights are doing exactly the same so you've got to keep an eye on what your opponents are up to.

For the really brutal player, you can turn on your fellow players. If another player has got something you want, then you simply attack them and if you win the ensuing battle then you can pilfer any item from their body.

Once a player has lost all his or her lives then you can pillage the grave and take everything.

Oh, and watch out for the black knights – any knights not controlled by a human player fall under computer control and spend the whole game trying to kill you. Youth of today, I don't know...

On top of all this, you also have to contend with a massive dragon who flies around the map and attacks players at random. The chances of beating the dragon without top of the range armour and a magic sword are alarmingly slim, so it's best to avoid him until you're tooled up enough to beat him.

Now, if all this sounds a bit



Thud. Squirt. Ka-smish. Umsk



Growl. Roar. Crackle. Fizz. Phut

involved for a beat-'em-up then you'd be right. There is more than a little bit of strategy required for this game. Not so much that you spend ages working your way up to a fight, but enough so that the endless hack and slash doesn't become tiresome. A nice balance, if the truth be told.

I'm sorry. I suppose we can't put this off any longer. We're going to have to discuss the graphics. So, with a glass of water and a handy bucket in case of spontaneous regurgitation let's take a close look at those crimson-spattered sprites.



And they really are quite startling. Blood squirts and gushes all over the place, limbs and heads fly off in huge gouts of scarlet fluid, flesh is ripped open and flung all over the screen. It's just like Casualty.

It's so gruesome that Mindscape have given the game a voluntary 12 certificate. So all you responsible parents may want to Tippex over the screenshots on this page, just in case your offspring see them and grow up to be serial killers or something.

The detail is excellent, and not just on the gore – which is optional for you wimps. The still screens and opening animation are good too, proving just why the game is one meg only. But, heh heh heh, let's talk about the gore again.



This game reminds me of Battlechess in one respect – it's very tempting to get killed just to see what disgusting animations the programmers have come up with. And there's plenty of variety, in both monsters and players. They range from a fairly tame decapitation, to an extremely over-the-top bursting at the seams and squirting bodily fluids sky high. As I said, there is an option to turn all this off, but let's be honest, what's the point? It's the gore that makes the game entertaining to watch.

The sound effects are squishy too. Each body-slicing blow is accompanied by what sounds like a large bag of yoghurt being drop kicked into a dustbin full of beach effluent. A sort of "Ker-splutch" noise. Plus various groans, grunts and roars from the massacred beasties. PLUS!!! Some sampled chants and things for the spooky Stonehenge animation at the beginning. PLUS!!!!!!! Some fiddly fiddly dee music. So the sounds not bad either.

If you want a beat-'em-up that's meaty, bloody and slightly strategic, then Moonstone is phun with a capital F. It may not be terribly appealing in the long term because it is pretty easy to get all four keys and finish the game, but you'll come back now and again just to let off a bit of steam and purge yourself of all those primeval urges. A welcome addition to the genre.

**Daniel**

**VISION**
GGGGG
Splattery, no holds barred, blood and guts. Oh, and the rest looks great as well.

**AUDIO**
GGGGG
Splattery, no holds barred, blood and guts FX. Hang about. Déjà vu or what?

**PLAYABILITY**
GGGG
A good blend of action and strategy, plus a four player option keeps it interesting.

**ADDICTION**
GGG
Good, bloody, fun, but could become too repetitive and easy.

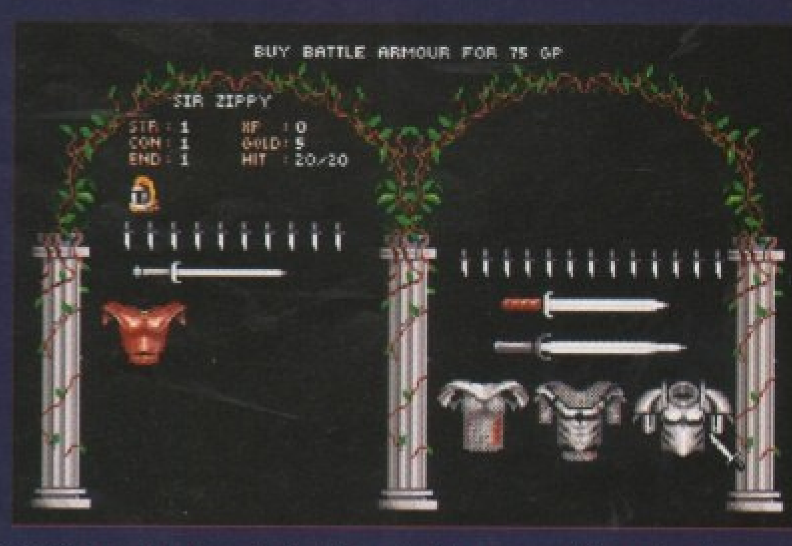
**89%**



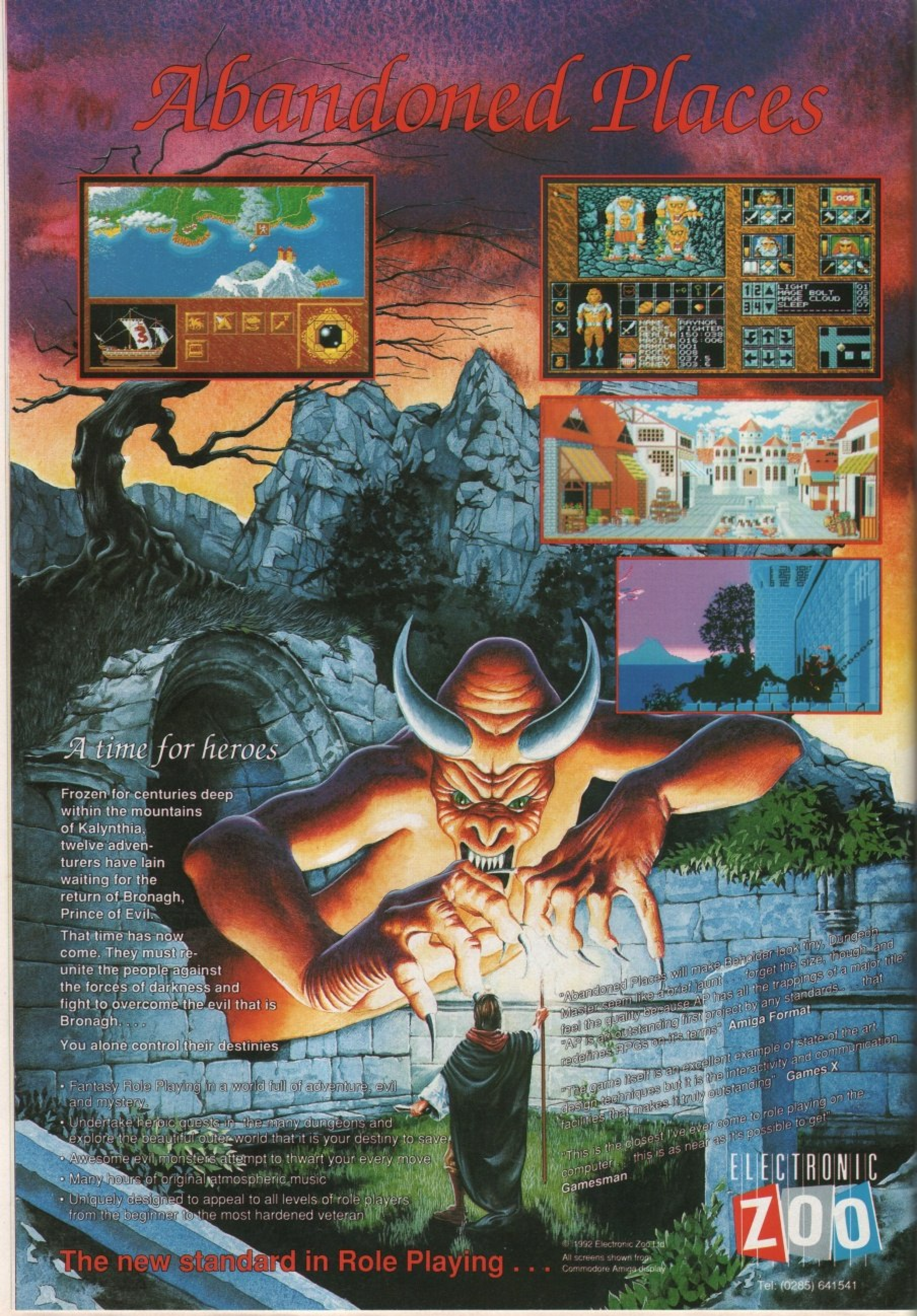
Splat. Stab. Eeeeeek



Hack. Slurp. Spurt. Aaaaaaaargggh




Spending your blood money in the city to get a bigger weapon (oh yes missus)

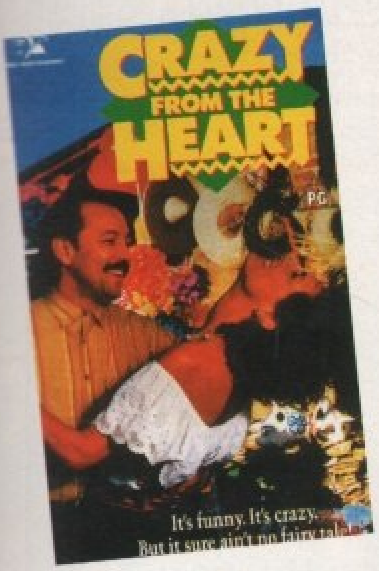

Abandoned Places
A time for heroes
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All screens shown from Commodore Amiga display
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# New videos

Your essential guide to entertainment with Gamer's very own critic – Antony Purvis

ENTERTAINMENT XTRA

SELL-THRU' • SATELLITE • CINEMA




## Crazy from the Heart

**First Independent**
**Rental from February 12**

Christine Lahti plays a bored teacher who becomes the hot topic of gossip when she falls for the school's Mexican janitor, played by Ruben Blades. After returning from a wild weekend in Mexico – married to boot – their lives suddenly become public knowledge with alleged hysterical consequences. Hysterical it was not, nor even particularly funny. Anyway, it's a quite reasonable light romance video with the odd laugh along the way. Released in time for Valentine's day, too. Sweet.

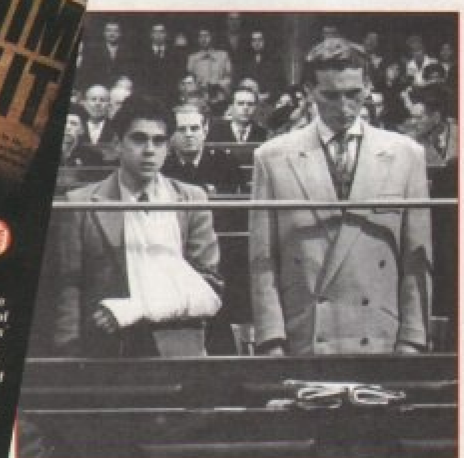
## Let Him Have It

**First Independent**
**Rental from February 26**

In 1952 two boys on a warehouse roof were cornered by police. They were Chris Craig and Derek Bentley. Bentley had already been arrested, but Craig had not and pulled out a gun. A policeman ordered him to surrender the weapon, and Bentley shouted the fatally ambiguous words: "Let him have it!" to Craig, who fired.

Craig and Bentley were both tried for murder and found guilty. Craig was 16, and too young to be hanged. Bentley was not, and despite the jury's recommendation of mercy, partly on account of his mental age of just 11, was hanged shortly afterwards. There is little doubt that the Craig/Bentley case is one of the greatest miscarriages of justice in British legal history. The lobbying for a posthumous pardon for Bentley, sent to the gallows for a crime he did not commit, continues to this day. This is their story. If you only rent one film this month, rent this one – it is a must-see. The truth will shock you.



Paul Reynolds (left) and Derek Bentley stand trial for the murder of P.C. Miles in Let Him Have It

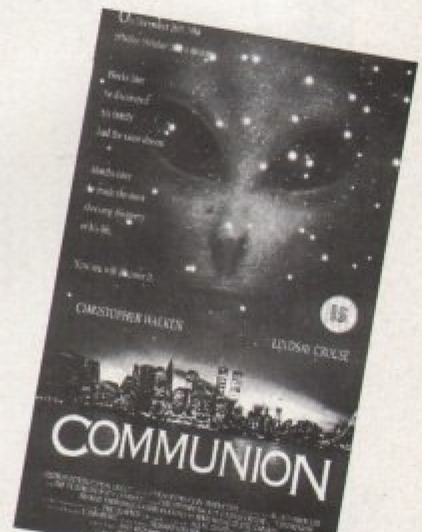
## Communion

**First Independent**
**To buy at £10.99**

Christopher Walken plays Whitley Strieber, a novelist whose recurring dreams of aliens prove to be real! That's real in the here-and-now sense, apparently it really honestly did happen to a real live novelist who was really called Whitley Strieber.

And I don't believe a minute of it. Sorry! Maybe Whitley had eaten some out-of-date pork sausages or something. Communion is far-fetched, somewhat pretentious and dangerously low on entertainment. Even as sci-fi it doesn't rate in my book.

Oh, and it is also on Sky Movies this month. So no need to risk £10.99, eh?




## Other video releases in brief

**Thelma and Louise is another "women who change their lives and having tasted life, liberty and happiness never look back" movie. Lovely. It stars Geena Davis and Susan Sarandon, is rated 15, lasts 124 minutes and should be in your local rental shop at this very moment.**

**Fans of classic television will enjoy this month's new ITC Home Video releases – The Adventures of Robin Hood, Sapphire and Steel, Space 1999, Danger Man, and, my personal favourite, Randall and Hopkirk (Deceased). From £10.99 to £16.99, they're available from February 10.**

**Ed Harris, Sean Penn, Gary Oldman and Robin Wright star in State of Grace, released on February 12, a tough underworld action thriller – copious amounts of death and violence.**

**Intimate Stranger hits your rental stores on February 19. This latest release sees pop star Debbie Harry taking on the role of a telephone sex-line host. One for the top shelf, methinks.**

## Sky's silver screen selection

Back to the Future 3, the film with the longest trailer in cinema history (Back to the Future 2 – oh, how unkind of me) blazes on to the screens of Movie Channel viewers on the 1st, 16th and 25th.

Communion, that film reviewed elsewhere on this page, can be seen on Sky Movies on the 21st and 29th, along with Days Of Thunder – Top Gun with racing cars. Catch it on the 15th or 23rd.

Dick Tracy, starring Warren Beatty, Madonna and Al Pacino, hits The Movie Channel on the 22nd. Only eight colours are used to keep the comic book look, so ex-Spectrum owners will feel at home. Also don't miss Die Hard 2, with Bruce Willis. Sky Movies on the 8th, 17th and 25th. Write it in your diary.

Cry Baby starring Johnny Depp contains what the synopsis refers to as a "square chick". Of square chicks I saw none, but I did see the svelte form of Ricki Lake, which I consider worth my Movie Channel subscription alone. Guaranteed to have me glued to Sky Movies on both the 9th and 19th. Total Recall is repeated on the 6th, 14th and 25th, and the comedy Twister screens on February 9th, sadly unconnected with the fun home game involving sticking your bodily parts in all manner of odd positions (Ideal for whiling away long car journeys, I might add).

Wings of the Apache, starring Nicholas Cage, is another film like Top Gun, but with helicopters. Unmissable, and on Sky Movies on the 22nd. Yet more screenings for Fire – Trapped on the 37th Floor, on the 1st, 13th and 24th – Lord, when will it end?

Back to the December issue and the films Loose Cannons and Loverboy, newly released on retail at the time. This month they're on The Movie Channel, so check them out if comedy is your thing. Rutger Hauer stars in Salute Of The Jugger on the 1st, 14th and 24th on Sky Movies Plus, while over on the Movie Channel is a Star Trek 25th Anniversary special.

# EAGLE SOFTWARE

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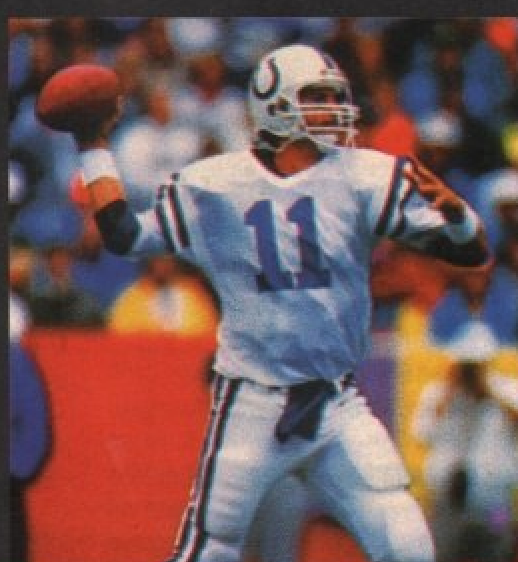
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# All American Hero

Gamer's top quarterback Duncan Evans huddles over his keyboard in search of the definitive American Football simulation

**It's a well known fact, well known to those who have tried it anyway, that American Football is a well orchestrated mêlée of utter precision and bone-snapping violence. Now if you're the kind of guy that enjoys physical pain then there's no better place to be than on the line, but if you prefer to experience the thrills and spills of the sport at a safer distance then read on for the definitive guide to the best in American Football games.**



## TV SPORTS FOOTBALL

### Supplier: Mirror Image Price: £9.95 Type: Arcade

Before John Madden there was Cinemaware's typically over-the-top TV Sports Football, which can now be found on Mirrorsoft's budget label, at a price which you can't really say no to.

TV Sports is also an arcade-style game, but has the edge on John Madden in that each of the players has certain stats which can be swapped around. So, you can have the Montana-Rice combo but at the expense of having a kicker with a wooden leg.

The other great attraction is the glossy presentation with all kinds of extra graphics thrown in. Players wave to mom, coaches spit, bands play at half time, and so on.

When you do get to playing the game the display is vertically scrolling like JM Football but from a high angle. Like JM as well, there aren't that many plays to call upon, in fact there are even less, but if a passing play breaks down you can always scramble with the ball. What makes the game more competitive is that as soon as your receivers have gone off screen you can only guess where they are.

The action isn't,as crisp as JM Football, nor as varied, but you do get more stats, all the teams to choose from, and a full NFL season to play through so it has more long term appeal. Since it's only a tenner, why not get both?

## TOUCHDOWN!

### Supplier: Strike Force Design, 28 Noble Street, Hendon, Sunderland SR2. Price: £14.95 Type: Management

So to the other two games in this roundup, and the management side of the sport. Touchdown! is a game that lets you become the head coach of any team in the NFL and lead them through a full 16 game campaign cumulating in the play-offs.

A Touchdown! team follows a basic 3-4 format on defense, two wide receivers and a tight end on offense. The plus point is that each player is a real life player, and they are rated at their positions. There are also backups in case of injury.

Each week the head coach can spy on the team to be played next, and work out potentially productive matchups with your players against theirs. Thankfully this is possible because the excellent instructions list which players do what on any given play.

This and the graphics are two of Touchdown's advantages over management rival Headcoach 3. Also in your weekly schedule you can check the NFL tables, save or load a position and either try and trade players or go to training camp. The latter two features are an either/or option. If you go negotiating to trade a player you can't spend time in the training camp trying to improve a player.

The trading aspect is fascinating, as well as unique – this is the only computer game anywhere that lets you do it. All the players have a trading value so that even if you have a highly skilled right guard, he is only worth an average skilled running back.

At training camp you can single out one player per week for special coaching, but he isn't guaranteed to get any better, and if you are unlucky he can either suffer a loss of confidence or an injury. Equally he can improve.

It's these facets to the game which let you do something meaningful between the game each week that make Touchdown! better than Head-Coach 3.

When you do get to the weekly game there is a very nicely laid out screen offering admittedly not that many play calls. Defensively there are less, but those offensive plays are designed for the player to player matchups, making for a more tactical game. What's really neat is that with each play you get a text description of the action plus three digitised pics showing what's gone on. Ally this with the mouse-controlled play selection and you have an easy to play, but intelligent and tactical game, and at a very decent price to boot.

the Source

# HEADCOACH v3

**Supplier: Midnight Oil, 18 Hazelmere Road, Stevenage SG2 8RX**
**Price: £19.95 Type: Management**

I have to admit that I've played this game on every imaginable format, and the Amiga represents the best, but only because it has a reasonable use of colour.

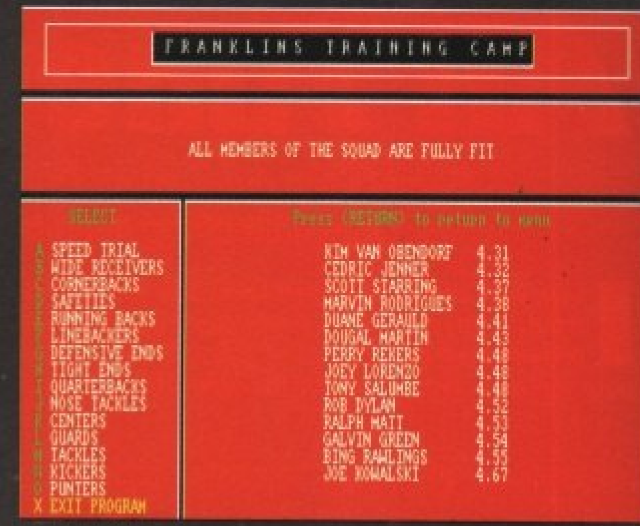
Headcoach 3 gives you control of the unlikely sounding Schoburg Franklins but lets you decide which division you are going to play in. Even if you pick a troublesome division it is still possible to win the Superbowl in the very first season.

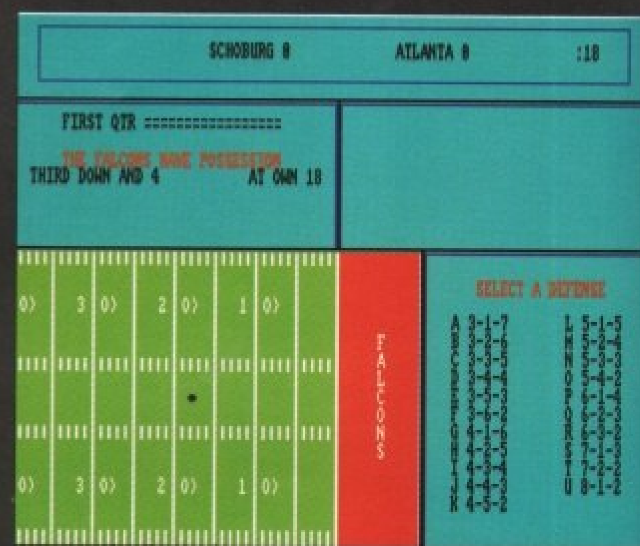
After two tedious pre-season games the season proper starts, with a text-only confrontation. Offensively there are plenty of calls to choose from, many more than in Touchdown!, with a call for every situation. While these are great to be able to call upon there is a small drawback. You have two receivers and two running backs but you can't specify who gets the ball, so if you have one star and one dog, there's no guarantee that the best man is going to carry the ball.

Defensively the options are simply formation, which do let you play against the run or pass but aren't really designed to go for an all-out blitz. Still, more variety than Touchdown!

At the end of each quarter you can change your personnel – who have a one to five star rating – and examine the excellent wealth of stats. At the end of the game there are nice features like votes for the best players and a full stats analysis, along with other scores and the tables. The trouble then is that between games you can only slobber over the stats – there's nothing constructive to do but play the next game.

Like Touchdown!, at the end of the season there's a college draft to improve your squad. With an uninteresting display and lack of inter-game options Headcoach 3 has been superseded by Touchdown! and represents a game for stats fans only.



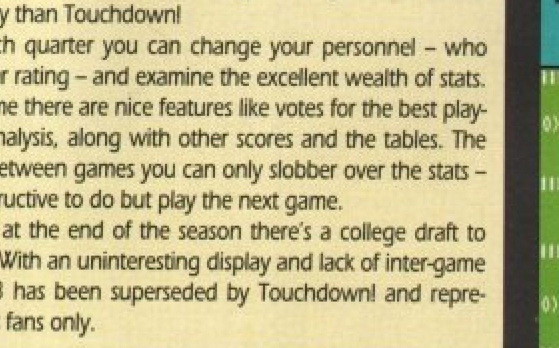




# JOHN MADDEN FOOTBALL

**Supplier: Electronic Arts Price: £TBA**
**Type: Arcade**

John who? Devotees of the sport will be familiar with the fat and fairly unpleasant features of the former Raiders coach-turned-TV commentator, but for anyone else simply mention that Sega Megadrive game and comprehension dawns.

In truth, JM Football came out on the PC a couple of years ago, but it took a completely different, all-action version on the Megadrive to spark EA's interest in an Amiga version. It was worth the wait, mind you, as you get to personally lead one of about half the teams in the NFL in either a one-off game against the computer or a friend, or take part in the playoffs running up to the Superbowl.



This is obviously touting itself as the successor to Mirrorsoft's TV Sports Football, so it's a pity that you can't play a season's worth of games and that the players are largely anonymous. Still, the teams are graded, and if you watch the pre-game notes you can tell whether your team has any chance on the ground or whether it's going to be bombs away.

If you want an easy game then simply pick the 49'ers who are very good at virtually everything. With the computer playing a rather slack game, especially defensively, the only real challenge is to play the Atlanta Falcons – this is the Falcons of last season not this – who have zombies in the backfield and tortoises for receivers.

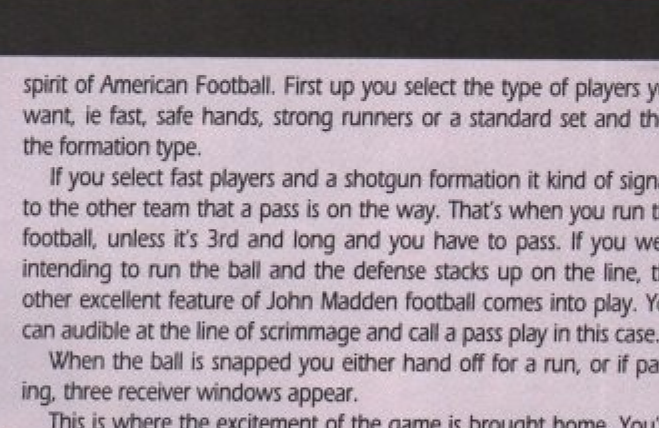
When the game starts, the pitch pans out very impressively and the action commences. Playing offense perfectly captures the feel and spirit of American Football. First up you select the type of players you want, ie fast, safe hands, strong runners or a standard set and then the formation type.

If you select fast players and a shotgun formation it kind of signals to the other team that a pass is on the way. That's when you run the football, unless it's 3rd and long and you have to pass. If you were intending to run the ball and the defense stacks up on the line, the other excellent feature of John Madden football comes into play. You can audible at the line of scrimmage and call a pass play in this case.

When the ball is snapped you either hand off for a run, or if passing, three receiver windows appear.

This is where the excitement of the game is brought home. You've got to watch all three receivers, waiting for one to get open or at least into position, while watching for the opposing defensive ends and linebackers bearing down on you. There's nothing better than evading a couple of tackles, spotting that receiver open downfield and getting the ball off for a last minute touchdown.

When you throw in sampled sound effects, the ability to crush people or try and strip the ball on defense, you have the most complete all-action rendition of American Football ever created. There's only one problem – against the computer it's too easy to make those 30-yard passes. In a one-on-one situation against a friend though, it doesn't get any better than this.



# Ultima VI

## The False Prophet



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# MERCENARY III

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You know what I think of the people who live in the Gamma system? I'll tell you. They're a bunch of ungrateful camel spankers. Every last one of them. Thankless lizard baiters. Low down cheating giraffe wobblers, whatever one of those is. And do you know why? Because after saving the entire system from oblivion in Mercenary II, they rewarded our hapless merc by bunging him in a time warp prison. Makes your blood boil doesn't it? Scumbags.

So, when they finally let you out, guess what they ask you to do? Help them out again, that's what. The nerve of it all. It seems that a sinister Mr. P C Bil has risen to power and is on the verge of being elected Supreme Big Cheese of the entire cosmiverse (and Denmark). If this happens he'll use his new found political muscle to get away with all sorts of underhand shenanigans. So, fellow mercenarers, all you have to do is to scupper his plans one way or another.

There are several ways to throw a spanner in the works, as there always are in these vast exploring-type games. The game rather handily comes with a hint pack that contains several hints on the ways to win. The most obvious solution is to become a presidential candidate yourself and get elected instead of Bil.

This involves signing on as a candidate, organising your campaign and then waiting for the people to choose. However, life in the public eye means that you must keep your nose clean and follow the election rules or you'll be disqualified.

It's a pity that Bil doesn't have the same sense of fair play really. He'll constantly try to ruin your reputation, and even try to tempt you into a life of rock and roll gambling on his casino planet, Bacchus. The fiend.

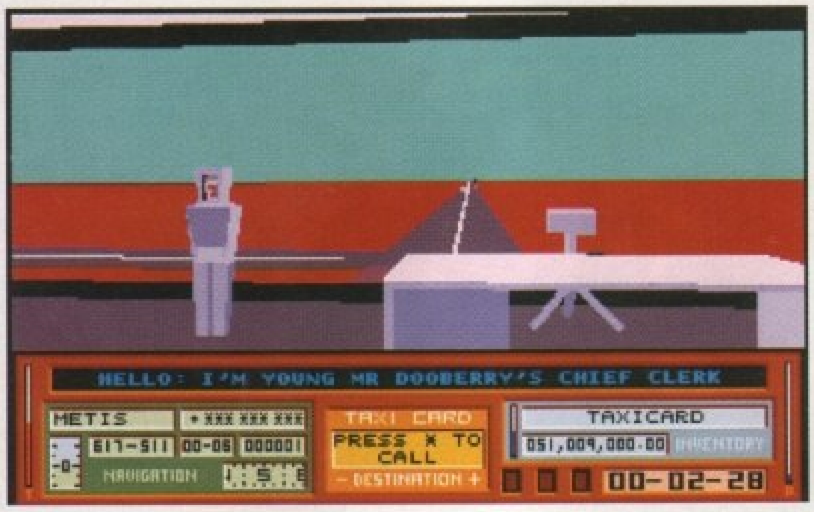
This is the easiest route to success – others involve much more subtle planning and strategy. How about sabotaging his mining operations, bankrupting his casino, locking him in a specially built prison or taking on his fleet of combat craft and shooting your way to victory? There's also a secret solution that only the cleverest players will discover, and it's this one that will shower you with the fruitiest dividends. And I've no idea what it is.

As in Damocles (Mercenary II, fact fans), you have complete freedom of movement around the Gamma system and all its planets, moons and outside lavvies. The big switcharoo here is that while you were twiddling your thumbs in the clink they installed a mighty handy public transport system on most of the planets.

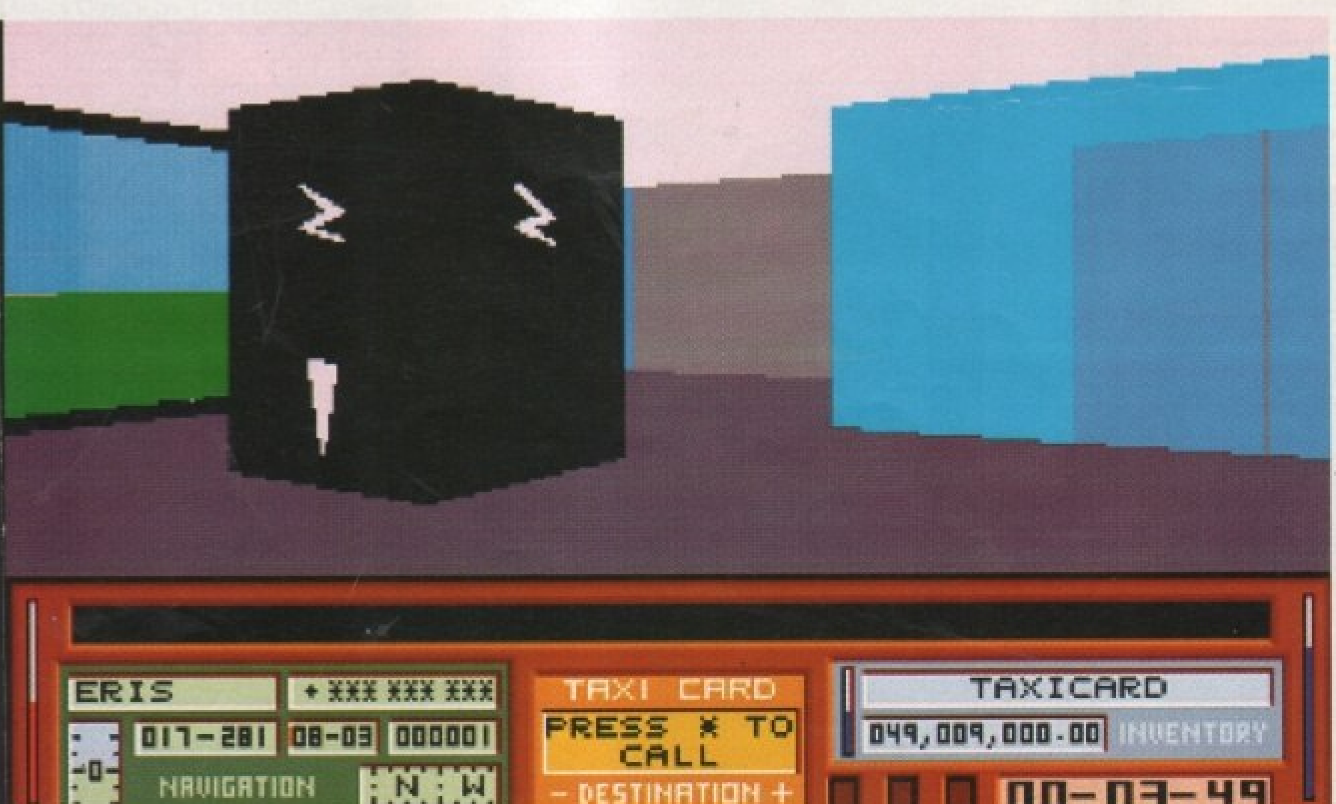
These incorporate taxis, hire cars, buses, intercity shuttle flights and planet to planet space cruises. Oh, and as in Damocles, there's a transporter system that zaps you from one planet to the next in the blink of an eye. All you have to do is find it...

All of this means that finding key locations is a lot easier, as the public transport doesn't bother stopping at useless empty buildings. Well, most of the time anyway. It also means that going from one planet or one island to the next is a doddle, whereas in Damocles it was an absolute bugger. So straight from the word go, it's easy to pick up the clues and get on with the task at hand.

And there's another advantage to




**It's not all work, work, work y'know...**




**You have entered a dimension, not just of sight and sound, but of mind...**



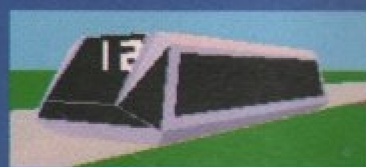

**It's so much easier when someone is doing the flying for you...**

# Back seat driving

**Why bother driving yourself around when there's always some muggins ready to do it for you? That's what I always say. So to allow you maximum convenience and comfort during your mission, here's how to get about the Gamma system without spending a fortune...**



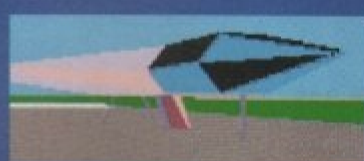
Taxis are always there when you need them and they'll take you wherever you ask them to go. Unfortunately, they cost a bomb and the robot drivers on Gaea are always going bonkers.



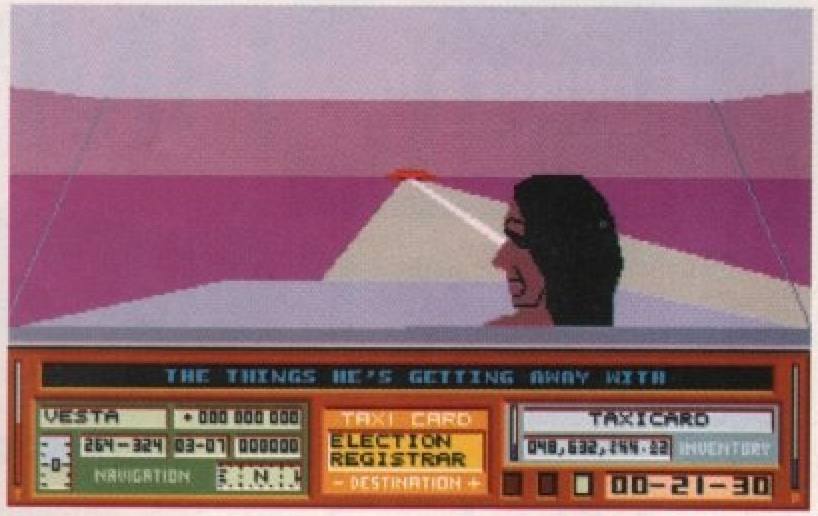
For the Mercenary on a budget, the bus is ideal. It costs nothing, but often takes you all over the place before reaching your destination. If you can get the hang of the schedule, the buses are probably the best form of transport.



To get from one city to another, you've got to catch one of these InterCity shuttles. You can't miss them, as they'll wait for you to return before setting off again. Fairly expensive and the pilot on the Gaea flight is a maniac.



Interplanetary travel is achieved via these deep space cruisers. They cost an absolute fortune, but you can glean some handy hints from the pilots if you're lucky. There is a cheaper and quicker way to planet hop, if you can find it...




**Shut up and keep your eyes on the road, you psycho! Taxi drivers, eh?**




**"I've come to see that gorgeous and sexy Games Editor..."**

this new twist. It means that there are other characters to meet. Taxi drivers, pilots, receptionists, and, er, tax men. Unfortunately, you can't talk to them, only listen to their words of wisdom. Obviously, some of these characters will unwittingly impart vital info, so keep your ears open and don't go and make a cuppa during a taxi ride. You might miss that all important hint. If you're an independent sort, then you can splash out the cash for your own vehicle (or nick one) and explore the world beyond the transport route. Indeed, this is the only way to progress at some stages so don't rely on public transport all the time, because just like our beloved BR, it will usually zoom straight past the place you wanted to go.

And so, with a whole galaxy to explore and nothing but a few vague ideas of what to do, you must once again battle to save the people of Gamma for their undying indifference. Talk about being taken for granted...

Right from the start, Mercenary III grabs your imagination. It's all presented in the usual 3D, and it seems to be a little bit smoother than before as well. Occasionally, the colour schemes become a bit psychedelic, particularly on the non-stop party planet of Bacchus! That aside, the game now features plenty of little graphical touches to draw you further into the atmosphere of it all. Taxis and buses hover along the roads, people's faces smile and frown as they speak and giant flashing hoardings scream advertising in your face.




**The bus of the future. No lager louts. No grumbling pensioners. No screaming kids. Boring innit?**

The number of locations has gone up as well, as the bus and shuttle timetable demonstrates. There's even a strange building called Europress Publications in there somewhere! A lot of thought has gone into creating a convincing and interesting world for you to nose around in. Inevitably, there are plenty of giant buildings with nothing in them, but if you're on the right track you shouldn't come across too many.

For such a huge game, there's some surprisingly good sound effects in there as well. They're mostly restricted to the fluctuating whine of vehicle engines, but they really add a bit of gumption to the interspace journeys. And there's some hissing doors, just like Star Trek, and a resounding "clonk" when you walk into walls. Not enough to win one of those coveted Brits awards for music – Phil Collins will probably get all of those again – but it does its job and complements the look of the game.

As far as gameplay goes though, it's a winner. Perhaps a bit too slow moving for hard-bitten arcade fans, but for those who like to ponder over problems rather than leaping in feet first, all guns blazing, it's the closest you're going to get to virtual reality on your Amiga. And it's a damn sight more interesting as well. A large, bulging sack of gorgeousness.

**Daniel**




**The departure lounge at Elmdon airport. I could be here for a while...**

**VISION** – GGGG
Fairly undetailed, but loads of little touches

**AUDIO** – GGG
Not much, but what there is does its job well.

**PLAYABILITY** – GGGGG
Captivating, intriguing and easy to get into

**ADDICTION** – GGGGG
So much to get done, and so many planets to do it on!

**93%**

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# GAMER

## ELSPA Chart

Will you just look at that! Thirteen new entries, four games going up and thirteen going down. Ocean were top cookies this Christmas, achieving the top two games with WWF and Robocop. They've also dominated the budget market with their Hit Squad label, getting no less than seven titles in the top thirty.

Other games worth a mention are Populous 2, the great god game by Electronic Arts, which is a new entry at number three, and Birds of Prey, which flies in to number four – another from the Electronic Arts stable.

Gremlin's excellent driving game Lotus Turbo Challenge 2 drops from the number one spot down to number five. Alien Breed by Team 17 fell a massive 22 places this month, which caused a few watery eyes in the Gamer office because it's one of our faves.

Full price games took over the chart this month, claiming nine out of ten places in the top ten, but rest assured that those bothersome budgets will be back soon.

Now to our predictions for next month. Daniel has gone for Electronics Arts' Populous 2 to leapfrog a couple of places to the number one spot, while I've plumped for Robocop 3 to bash its way to the top. Both games got Gamer Golds in this very issue, so it'll be a toughie. To find out who wins, tune in next month for another drama-packed edition of... Talking Shop. Ta-ta for now!

Jonathan

| This Month | | Last Month | Title | Publisher | Price |
|---|---|---|---|---|---|
| 1 | ↑↑ | NE | WWF - Wrestlemania | Ocean | £25.99 |
| 2 | ↑↑ | NE | Robocop 3 | Ocean | £25.99 |
| 3 | ↑↑ | NE | Populous 2 | Electronic Arts | £29.99 |
| 4 | ↑↑ | NE | Birds of Prey | Electronic Arts | £34.99 |
| 5 | ↓ | 1 | Lotus Turbo Challenge 2 | Gremlin Graphics | £25.99 |
| 6 | ↓ | 5 | James Pond 2 – Robocod | Millennium | £25.99 |
| 7 | ↑↑ | NE | The Simpsons | Ocean | £25.99 |
| 8 | ↑↑ | 14 | New Zealand Story | Hit Squad | £7.99 |
| 9 | ↓ | 8 | Jimmy White's Whirlwind Snooker | Virgin | £29.99 |
| 10 | ↓ | 4 | Heimdall | Core Design | £34.99 |
| 11 | ↑↑ | NE | Leander | Psygnosis | £25.99 |
| 12 | ↓ | 7 | Bubble Bobble | Hit Squad | £7.99 |
| 13 | ↑↑ | 17 | Lombard RAC Rally | Hit Squad | £7.99 |
| 14 | ↑↑ | 28 | Batman – The Movie | Hit Squad | £7.99 |
| 15 | ↑↑ | 21 | Scooby Doo and Scrappy Doo | Hitec Software | £7.99 |
| 16 | ↑↑ | NE | Oh No! More Lemmings | Psygnosis | £19.99 |
| 17 | ↑↑ | NE | Dizzy Collection | Code Masters | £24.99 |
| 18 | ↓ | 16 | Terminator 2 | Ocean | £25.99 |
| 19 | ↓ | 6 | Return to Europe | Anco | £7.99 |
| 20 | ↑↑ | NE | Chase HQ | Hit Squad | £7.99 |
| 21 | ↓ | 9 | Shadow of the Beast | Sizzlers | £7.99 |
| 22 | ↑↑ | NE | Double Dragon 2 | Tronix | £9.99 |
| 23 | ↓ | 15 | Wacky Races | Hitec Software | £7.99 |
| 24 | ↓ | 2 | Alien Breed | Team 17 | £24.99 |
| 25 | ↓ | 19 | Dragon Ninja | Hit Squad | £7.99 |
| 26 | ↑↑ | NE | Fantasy World Dizzy | Code Masters | £6.99 |
| 27 | ↓ | 20 | PGA Tour Golf | Electronic Arts | £25.99 |
| 28 | ↑↑ | NE | First Samurai | Mirrorsoft | £30.99 |
| 29 | ↑↑ | NE | Robocop | Hit Squad | £7.99 |
| 30 | ↓ | 11 | TV Sports Football | Mirror Image | £9.99 |

"Talking Shop is sponsored by HMV and features a software chart compiled by Gallup Ltd. This chart is the copyright of the European Leisure Software Publishers Association"



A charming and peaceful rustic type scene and...



...a charming and peaceful rustic type scene with a whopping great column of fire killing everyone

Everybody wants to ruin the world...

# POPULOUS II

**ELECTRONIC ARTS ▪ £29.99 ▪ 1 meg ▪ Mouse ▪ Out now**

Gods. They're absolutely bonkers, aren't they? Just look at the wombat. Completely bonkers animal. How are you supposed to take the whole theological argument seriously when the deities in question are obviously a few Harry Secombes short of a Welsh male voice choir?

And I know why the gods are crazy. Yes, I know the reason for all the world's problems. Famines, floods, volcanoes, Top of the Pops, earthquakes. I know why they all happen. It's because – and steady yourselves for a fairly cosmic revelation – we are all little Populous people. Think about it. It all starts to make perfect sense, doesn't it? We're all under the control of some huge pan-dimensional being who's busily trying to finish some huge, pan-dimensional game of Populous. Our entire existences are just figments of a gigantic inter-spatial Amiga. Weird or what? Well, it made sense at the time. I suppose you have to get drunk first.

Anyway, that's enough philosophy and theology for one review. Let's take a look at the steaming pot of noodles that is Populous II.

Where to begin? That's the question, isn't it? How can a mere mortal even begin to explain the mind-bogglingly divine entity that was, and is, Populous? It was, of course, the game that launched a million imitators. Well, one or two at least. And to be fair, they made the original Populous look a bit worn around the fringes and tassly bits.

So, not being ones to suffer such abuse lightly, Bullfrog have taken off the gloves and prepared to kick some serious rump with Populous II. And believe me, there's some distressingly bruised rumps out there tonight.



It's snap, crackle and pop out there as the Gods unleash a terrible electrical storm



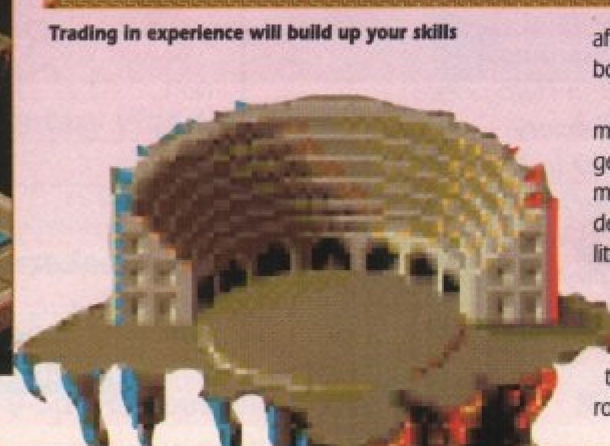

Trading in experience will build up your skills

Populous II takes the basic idea of the first and builds on it to make it a much more involved and detailed game than its predecessor. The main criticism of the original is that all you seemed to do was flatten land and occasionally make a mess of your opponent's settlements with the odd disaster. And with hindsight, it was true. The game might have introduced a whole new genre, but after a few hundred levels it got flamin' boring as well.



It's all going horribly wrong

To combat this niggle, Bullfrog have made everything in Poppie II much bigger and better than ever before. There's more disasters, with more emphasis on destruction and all round nastiness. The little Poppie people are more varied, as are the buildings, the scenery and, er, the crisp flavours.



'Tis not only the graphics that have been made firmer and more robust, for the sound has been beefed





Ha ha ha ha ha ha ha. Burn you snots burn!!!!! Ha ha ha ha ha etc etc



It's my new and improved winter retreat, with little roads and everything

right up as well with plenty of crackling fires, howling winds and screaming little Poppie people. All doing wonders for your ego and giving you an dangerous messiah complex. The power, the power. He he he he he he he. Die, little people, die. He he he he he he. Ahem.

And as if by magic, the gameplay has been polished, spruced up and had all the nobbly bits chipped off it. It's now been shifted to Ancient Greece, where all the gods were completely off their trees, and each god has unique specialities and playing techniques. And to keep it from the repetition that flawed the first game, there's more to do now than ever before.

The new disasters are really violent and much more satisfying than the old ones. The earthquake, for instance, sends huge cracks thundering across the land, swallowing up all and sundry. The whirlwind, er, whirls about and scoops up any bods in the way, dumping them miles from home, or, if you're really lucky, in the sea. And if the whirlwind goes over the sea, it creates loads of whirlpools which wander the oceans and destroy any land in their path.

Fire disasters will burn any building or person they touch, and leave behind a charred wasteland that can't be built on unless you level it out again. Blimey. That's just a small number of the disasters at your fingertips, but they're almost all unfeasibly wonderful.

It's not all warmongering and strife, though. There are icons to do nice things as well, such as planting trees and flowers in your settlements to make life nicer for your people, or building roads for them. There's even an icon that creates little pools, and when a Poppie person falls into one they switch sides, from red to blue or vice versa. These can reek havoc in the enemy's settlements, but then of course your new found worshippers can fall back into the pool and revert to the way they were. Careful planning is required to make best use of them.

Strategy wise, for each world you conquer, you'll get some experience points from Zeus (top Greek god bloke) depending on just how skilfully you managed your god-like powers. These can then be used to build up your prowess in one of the six elements.

For instance, if you build up your prowess in the fire element then you'll be much better at using fire disasters, and so on. Each time you upgrade your powers, you'll be given a password that will restore them to your new level, when you restart the game. This password coupled with the password for each world means that you can start the game exactly how and where you left off. A save game feature would have been a lot less hassle, but then Bullfrog always have moved in mysterious ways.

So the big question is "Is it a worthy sequel?", and the answer is "Yes", in a big booming voice. It's tons more playable than the original and, in my humble opinion, more playable than all the pretenders to its throne. The new disasters are sexy beyond belief, and the 1,000 levels mean that there's no chance of it being a "one weekend to finish" affair. In fact, I'd go as far as to say that this is, ooh, it's, blimey, it's...ooh I've gone all light-headed just thinking about it. Wibble. Rush out, buy it and see for yourselves, OK? I'm going to lie down in a dark room for a bit...

**Daniel**





**VISION** GGGG
Bigger and better, with loads of variety.

**AUDIO** GGGG
No tune, but alarmingly realistic sound effects.

**PLAYABILITY** GGGGG
More to do than before. The best god game ever.

**ADDICTION** GGGGG
That ole' "one more go" syndrome returns.

**95%**



My well 'ard fire heroes set about toasting the enemy



I hate months like this. You wait ages for something good to come along, and then you get about four or five brilliant games in one go. Makes us reviewers look like a right bunch of pillocks, I can tell you. It's all very good fun having loads of great games coming in at once, but it doesn't do our credibility any good.

Just you wait, I bet next month there'll be nothing. Not one good game. But this month we're packed full of Gamer Golds. Typical, innit? Anyway, enough of this selfish journo whining and on to RoboCop 3. And lo and behold, it's brilliant.

It's based around the forthcoming Robocop 3 movie, which has yet to see the light of day either here or in the States. A bit of a first there then, the film licence coming before the film. Of course, this means that we'll all know exactly what happens in the film before it even comes out. The price you pay for entertainment, eh?

Another first is Ocean's pirate-beating "dongle". This plugs in to the second joystick port and the game won't work without it. It does mean that two-player games are a bit tricky, but that isn't a problem as this is strictly a one-player affair. The only drawback I can foresee is that the dongle is fairly small. As you'll have to unplug it when you want to play something else, there's a very real danger of either breaking or losing the little fella. So let's be careful, right kids?

And the game is a bit different in other ways as well. Ocean have been teasing us with 3D screenshots for ages now, so we knew all along that RoboCop 3 was going to mark a distinct change in direction for them.

You see, RoboCop 3 takes the form of a true interactive movie. Not like Ocean's ill-fated attempt at a Cinemaware-type affair with Nightbreed, but a proper movie in which you take the role of the eponymous Robo and become embroiled in the usual mix of corrupt corporations and crazy street gangs.

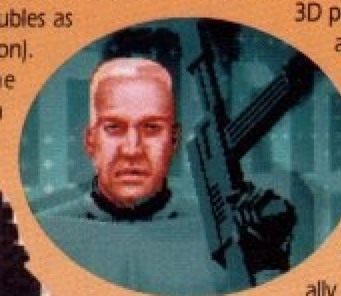
Thanks to a revolutionary new 3D system, the game feels arcadey but has enough depth to make it anything but run-of-the-mill. And for those impatient ones, you can either plump to play the whole interactive movie gubbins, or play each of the arcade sections seperately (which doubles as a handy practice option).

If you go for the movie option, which is the best, then you'll be presented with the now familiar fizzogs of Casey Wong and Jess Perkins. They then churn out the latest news, John Craven style, and this leads you into the game. You know the sort of thing – an ironic and handy scene-setting story about just how buggered up Detroit is, and then a tale about how some crime has been committed and, ber-limey, RoboCop happens to be on the scene.

So you switch to RoboCop's steel keks and start driving around Detroit chasing some stolen van or other. A bit like that part in the first film, actually. Pretty soon though, you get a message flashing up on your visor to go and help out Officer Anne Lewis who's got herself in a right old mess.

She's being held hostage in an old warehouse by the beastly Splatterpunks. Gasp! So RoboCop drives up, jumps out of his car and stomps inside to rescue her in another display of 3D japery. And so it goes on.

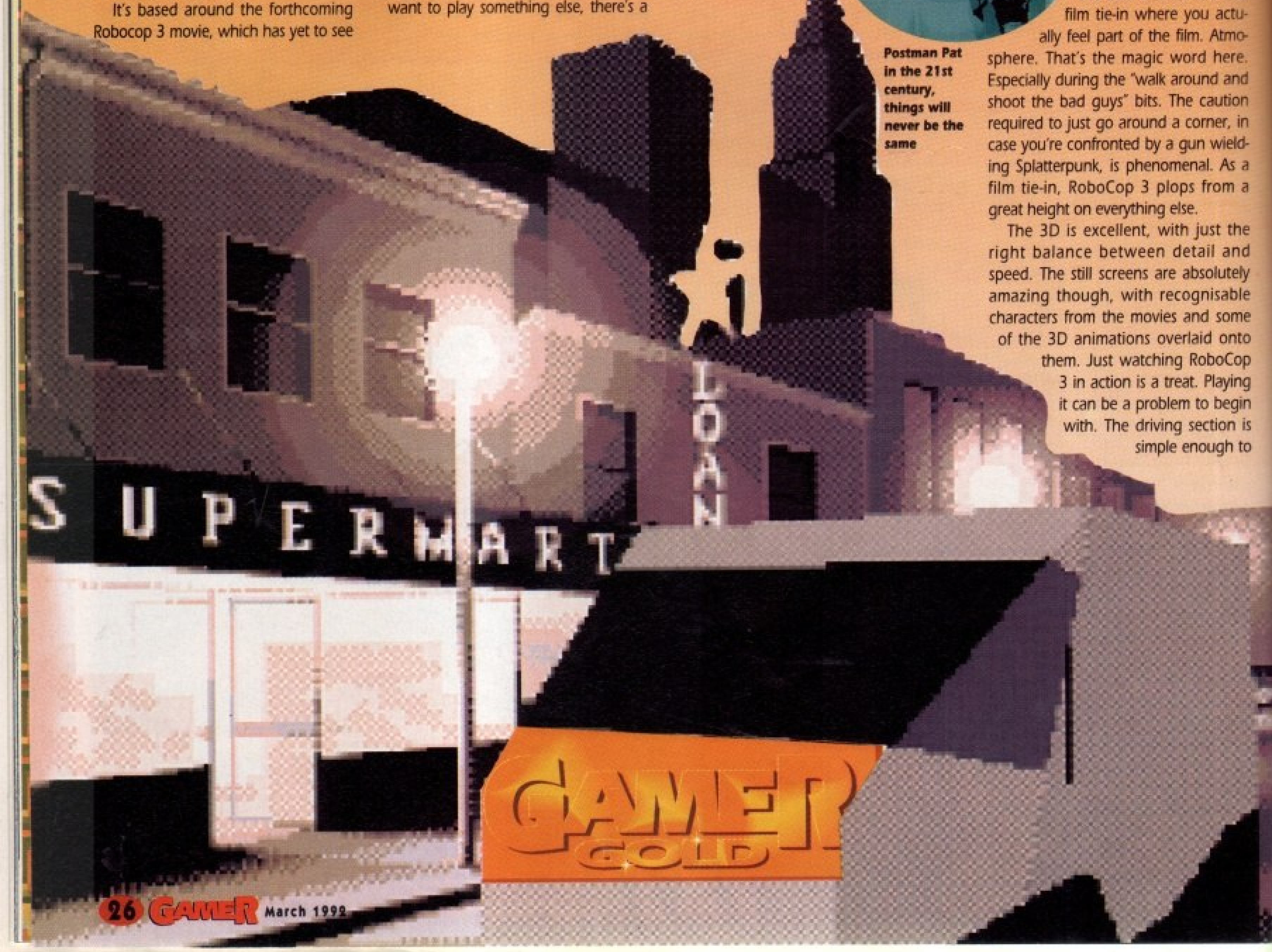
Basically, it's just a series of 3D arcade sections, all interlinked. It's not as repetitive as it sounds though, 'cos the sections range from smooth and fast driving, tense and violent shoot-outs, very tricky jet pack dogfights to a 3D punch up between RoboCop and Otomo, a Japanese RoboNinja. So, a fair bit of variety splodged about then.



**Postman Pat in the 21st century, things will never be the same**

The real drawing point of RoboCop 3 is the fact that it's the first film tie-in where you actually feel part of the film. Atmosphere. That's the magic word here. Especially during the "walk around and shoot the bad guys" bits. The caution required to just go around a corner, in case you're confronted by a gun wielding Splatterpunk, is phenomenal. As a film tie-in, RoboCop 3 plops from a great height on everything else.

The 3D is excellent, with just the right balance between detail and speed. The still screens are absolutely amazing though, with recognisable characters from the movies and some of the 3D animations overlaid onto them. Just watching RoboCop 3 in action is a treat. Playing it can be a problem to begin with. The driving section is simple enough to

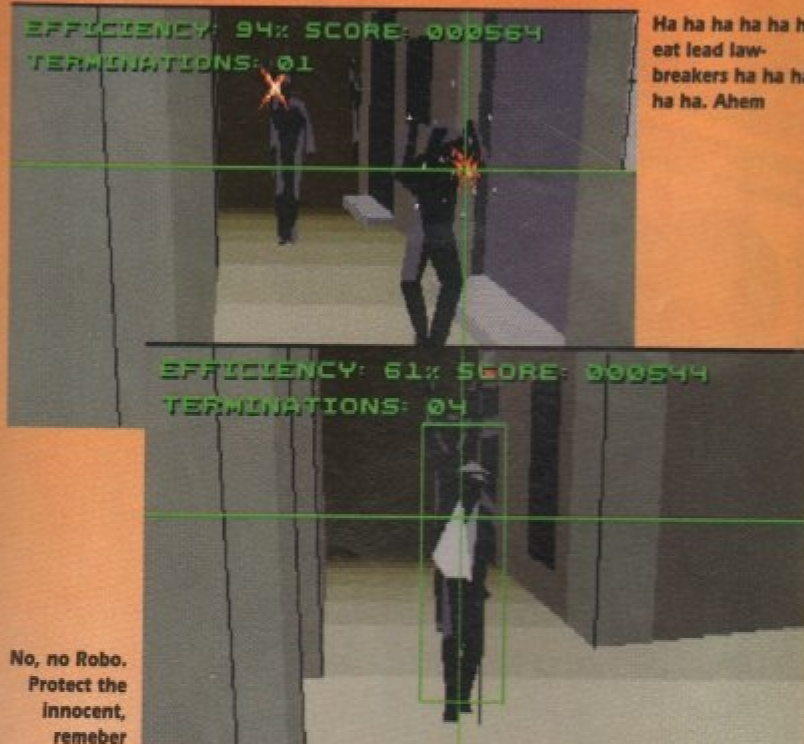



GAMER GOLD

Third time lucky for Detroits finest in

# ROBOCOP 3™

**OCEAN ▪ £25.99 ▪ 1 meg recommended ▪ Joystick ▪ Out now**




**Ha ha ha ha ha ha – eat lead law-breakers ha ha ha ha ha ha. Ahem**

**No, no Robo. Protect the innocent, remeber**




**The external views allow you to..er..see what RoboCop loods like from the outside**

control, but navigating around the map can be quite a task at first. Once you get the hang of that you should have no trouble getting to the second arcade sequence which is where the real control problems appear.

When you're indoors you manoeuvre Robo by using his gun sights. So pushing forward on the joystick moves the sights up and Robo starts to move forward. Any move to the left or right makes Robo rotate on his axis until the sight is centred again. This means that upon confrontation with an enemy gunman, precious seconds are spent trying to get Robo facing in the right direction.

This has the unfortunate effect of meaning that you can lose quite a lot of energy before you get a chance to shoot back, or you might even shoot a hostage by accident as you spin around.

The slippery controls can be mastered with practice, but it does mean that the game isn't as immediately appealing as it might have been. This is a minor problem though, especially when you consider just how well the game plays as a whole. The cinematic feel has been captured well and really makes the game stand out from the usual film tie-in nonsense. A worthy effort, and a welcome return to form from the past masters of movie licences. Just insert your own favourite RoboCop cliché here to round off the review. Ta.

**Daniel**



**VISION** GGGG

Excellent still screens, smooth 3D but some dark sprites.

**AUDIO** GGGG

Meaty gun FX, explosions etc and a good spooky tune.

**PLAYABILITY** GGGGG

Probably the best tie-in in the whole world.

**ADDICTION** GGGG

It won't keep you glued for ever, but it's got that special "something".

**90%**




**Ok Mr Bad Evil Robot Dude. I'm totally gonna kill you now**




**I'm afraid I have to tell you that you have failed your driving test Mr Cop, as you have just destroyed another car...**


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# Biffa's cheat mode

**Biffa** and **Sean Griffiths** of the Bitmap Brothers bring you the official guide to the hardest sections of **Magic Pockets**






# MAGIC POCKETS



## GENERAL PLAYING HINTS

The Magic Pockets is relatively complex. We describe the simplicities here and leave the sophisticated stuff for you to work out yourselves. Suffice to say everything you do has a knock-on effect on the gameplay!

The first law relates to the "kill count" concept. Each nasty that is "killed" increases the kill count (a "kill" is when a nasty explodes into sparks). This counter is used to affect the bonuses that are awarded for bursting a trapped nasty. The next bonus is indicated "behind" the lives hand and the power up hand.

The second law concerns the "bursting" of a trapped nasty. The bonus sweets that are rewarded for doing this can be determined by the player. The rule is that the harder a trap is hit, the more bonus sweets will be delivered. For instance, falling from a great height will burst a trap into three or four sweets as opposed to one or two.

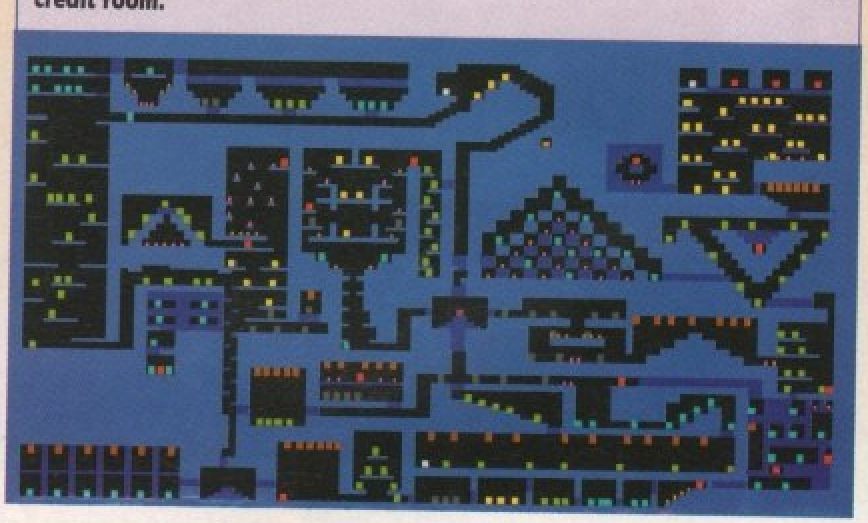
The third law defines the "gold stars" effect. These are the player's way of gaining mega-power ups. A gold star will turn into a "mega-power up" when touched. The gold star's contents are directly affected by the number of silver stars previously collected. Gold stars and silver stars are both mini-power ups.

The fourth law concerns the mini-power up bonuses. A mini-power up can be created at every 5,000 points. To do this simply trap a nasty, and burst the trap – the player scores 5,000 points and he is then credited with a "power up". The "power up" is collected the next time a nasty is trapped and burst. Thus, if a bonus of 10,000 points is awarded, this will credit the player with two power ups, which will be collected as the next two nasties are burst.

## THE CAVES (Section 2)

Where do we start with section 2? It's huge! Over 100 screens went into designing this section. Every type of power up and bonus can be found here if you're prepared to explore. Choose your direction and set off.

Follow the arrow if you wish to find the bike and exit quickly (watch out for the Super Rockman, he's after your bike too) – ignore the arrow and explore the cavern at your peril. There are also loads of secret rooms – try and find the sweet machine room, jelly baby room, and the extra credit room.



## HAKPAK

**Keep the cards and crack the games! Hakpak brings you more lovingly collated cheats**

HAKPAK

## GAMER HAKPAK — PLATFORM

### Hudson Hawk
**Ocean**

To activate the cheat, type in **SCIENCEFICTION** (no spaces) on the title screen to get infinite everything.



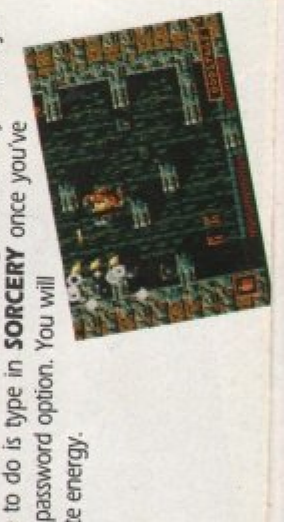
### The Blues Brothers
**Titus**

Everybody needs somebody, everybody needs somebody to cheat! Simply type in **HOULQ** then skip through the levels by pressing any number between **one** and **six**! Grab your shades and chill out brothers! Ooowwww!!



### Gods
**Renegade**

Whaaat!!! A cheat for a Bitmap Brothers game? No way! Yes way – all you have to do is type in **SORCERY** once you've selected the password option. You will recieve infinite energy.



# Biffa's cheat mode

Part two







## MAGIC POCKETS

## THE JUNGLE (Section 2)

Kill the two nasties above you and trap all the gnats. Spin and burst – you should have a pile of lollipops to pick up. Next, move right, but watch out for the "roaming" chimps – they hang to branches. There are two bees at the top of the next tree – they are easy to kill but will home in on you. Don't run away, as this will make things worse! Stand there and blast them.

Drop down now, and you will find a bud at the bottom. Water it with a raindrop from your cloud and it will grow, spreading branches across empty space. Get the idea? Now move right and water the next one – this will take you up to the top ledges. The next section contains snakes, fast ones, slow ones, and tough ones.

Now move left, pick up the cocktails, and throw sweets to the venus fly-traps – they're all "eaters". Trap them to get bonus power ups. Jump off the branch, and try to take out as many nasties as you can when you fall. Open the tack-bag at the bottom, leave it there, move right and climb up the tree's branches, picking up the bonuses as you go. Jump off the ledge again, pick up the bag, take a quick look at the TV and water the two plants (this will give you higher platforms to stand on).

Climb the plants and spread some tacks. Drop through the gap, and drop through it again to pick up the bonus sweets. There are more bonuses, but be careful you don't drop back down to the start.

Spin back up to the top – don't miss the bonus on the left – then spin up to the top again, watching out for the hostile fly-traps, and exit. The secret room in this section is full of stuff, and repeated transports will take you back here again and again.









## THE JUNGLE (Section 3)

Blast all the chimps, and pick off the fly-traps. Then trap a snake, and burst it for "coins". This section is quite big, so pick your route carefully. Watch out for venus fly-traps with gnats in their mouths – they're worth double points. The "buds" here will grow into big plants. Try a secret room for coffee and tea (and bubble gum!).

Try and work your way to the right, as this is where the glove is. There are hidden ledges at the very top, but how do you get them?


THE DREAM TEAM

publisher - richard williams
gamer editor - daniel whitehead
associate editor - eddie mckendrick
senior staff writer - jonathan maddock
production editor - phil morse
design editors - terry thiele
eddie mckendrick
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ruth priestley
0625 878888

If you can't be superhuman, at least gave a decent haircut
climax

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# SHOOT 'EM UP

GAMER HAKPAK

## Alien Breed
**Team 17**



To activate these cheats, logon to the computer on deck two and simply type in (including spaces) one of the following:

**I CANT BE A**ED TO PLAY THE FIRST LEVELS** – Sends you directly to level 3 (replace asterisks with R and S!)

**PUFFNUTS MODE** – Makes the aliens very slow

**PI**ED AS A FART** – Replace the asterisks with the letter S, to play the game in drunken model

**BEN JOHNSON TRAINED THESE ALIENS** – Makes the aliens a little bit faster

**THE IRAQIS MADE THE WEAPONS** – gives you abysmal weapons

**SALMAN RUSHDIE PLAYS ALIEN BREED** – Ho ho, try it...

**BEWARE ALIENS SPADGE HAS DROPPED ONE** – All the aliens flee in terror

**PITBULLS ON THE LOOSE** – Makes the aliens as dangerous as pitbull terriers

## Pegasus
**Gremlin**

Here for your enjoyment are some of the level codes for that brill shoot-'em-up by Gremlin:

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DRAGONFLY
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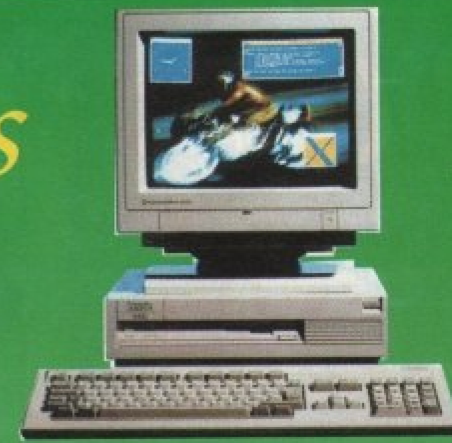
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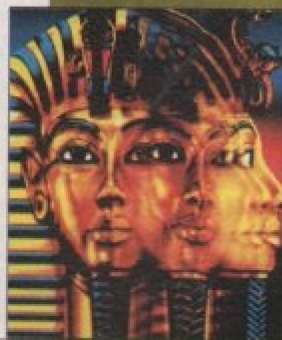
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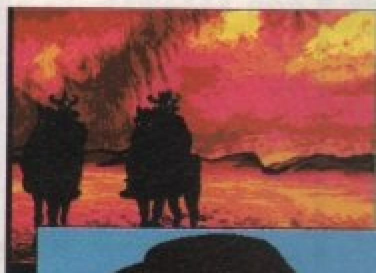
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# the Gallery



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ELECTRONIC ARTS









Neil Keenan, Glasgow

## Calling all artists!

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**Britain's Best Amiga Gallery**
**Amiga Computing**
**Europa House**
**Adlington Park**
**MACCLESFIELD**
**SK10 4NP**

**Don't forget to write a few lines about yourself and what format the picture(s) are in. Remember, we don't want scanned or digitised pictures – don't send them, because you won't win a thing.**

We have been inundated with Gallery submissions this month, all of them of excellent quality. The variety of pictures is quite startling, from portraits to landscapes and from abstracts to nudes – we've had them all, I only wish that we had more space to show them.

Right, down to business. First Amiga artist this month is Lee Wilkie from Hitchin. His excellent artwork comprises of a woman seductively draped over a tree in some far-away place. The overall look of the picture is excellent and it wouldn't look out of place in a Bounty advert.

His other scribbling is of Britain's most famous racing driver Nigel Mansell, powering his way to victory in Adelaide. A lot of detail has gone into this one – it even comes complete with sparks. Great action picture, Lee.

Our runner-up this month is Neil Keenan. He's 18 years old, lives in Glasgow and is currently doing a BA degree in Fine Art and Design at Glasgow School of Art. He's had an Amiga for two years which he got by selling his Atari ST (wise move, mate!).

As you can see he takes his inspiration form The Lord of the Rings with great portraits of Gandalf, Frodo, Black Riders of Mordor and even Gollum himself. His other stuff includes landscapes and portraits, which he prefers, and the detail and quality of these is outstanding.

This month's winner takes his inspiration from fantasy as well. Minder Singh, from Huddersfield, sent three pictures in. He wins with his reproduction of a panel from top magazine 2000AD, from the Slaine Horned God series. His other two pictures feature your friendly neighbourhood Spiderman, and there's also a fantasy art picture called Balor of the Evil Eye.

Top marks go to Minder for these wonderful pieces of art – he wins a copy of Deluxe Paint IV and achieves fame throughout the land. Let's see more pictures like these for Britain's best Amiga Gallery.






Lee Wilkie, Hitchen

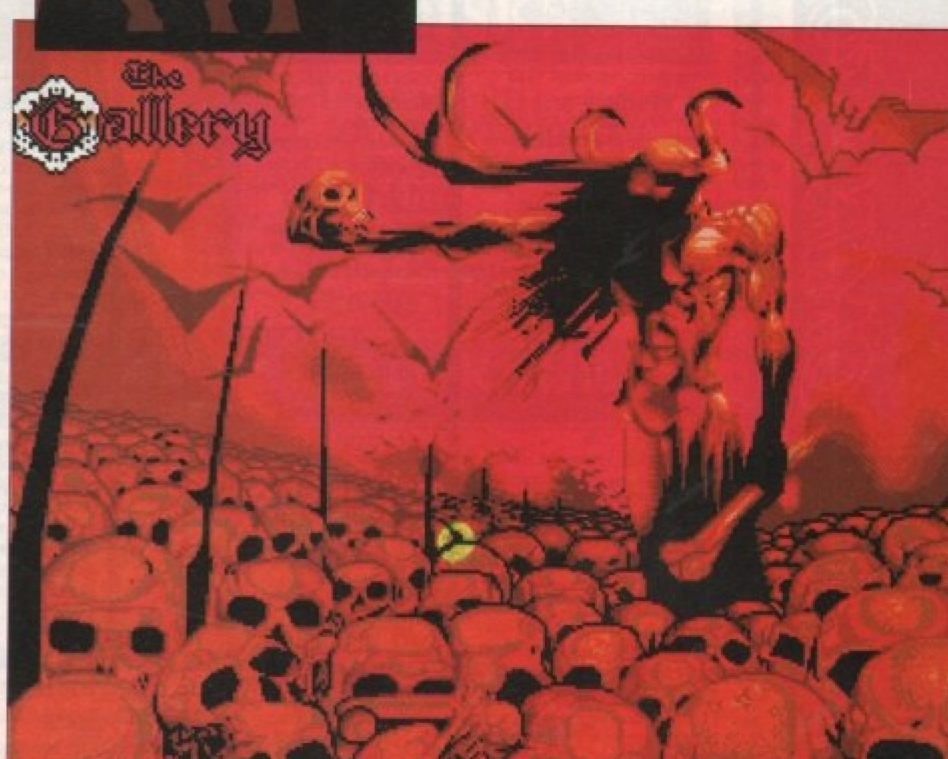
## Larger than the Louvre, more tantalising than the Tate, Jonathan Maddock takes you on a tour of this month's Gallery

## This month's winner






Minder Singh, Huddersfield



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## GAMES

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**ST Action, February 1991.**

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# PUBLIC sector

**If you're looking for a cheap way to get into graphics and animations, or if you're just on the look-out for economical entertainment, then Steve Williams may have something to interest you**

## Graphics Master

**EdLib Disks 3a and 3b**

If you love using Deluxe Paint to produce your graphical masterpieces but want to see what else is on offer, then it's well worth having a look at EdLib's Graphics Master compilation.

This is a two disk release that contains something old, something new, something borrowed, but nothing blue. There is such a wide selection of programs on this compilation that there is bound to be something of interest to you.

The list includes 16 titles, all dealing with various aspects of graphics handling. They are Remap, Iconize, Clipit, Planet, Surf, Showprint, Screens, TVText Demo, Pitchers, Mostra1.3, 3D Master Demo, Rot5, Rippers, ImageTools, ImageLab and IFFMaster.

I can't detail them all for you – there's not enough room – but here are a few that caught my attention. Remap is a neat little CLI utility that lets you convert a picture of one resolution to another. This is useful if you have a HAM picture and you want to edit it using Deluxe Paint II or III, which can't handle this format. All you do is use the program to convert it to high, medium or low resolution, and then load it in. Planet is a clever program that will map any IFF picture you provide on to a sphere of any size, while also allowing you to decide the lighting direction and other factors. The finished image looks rather like a picture taken with a fish-eye lens.



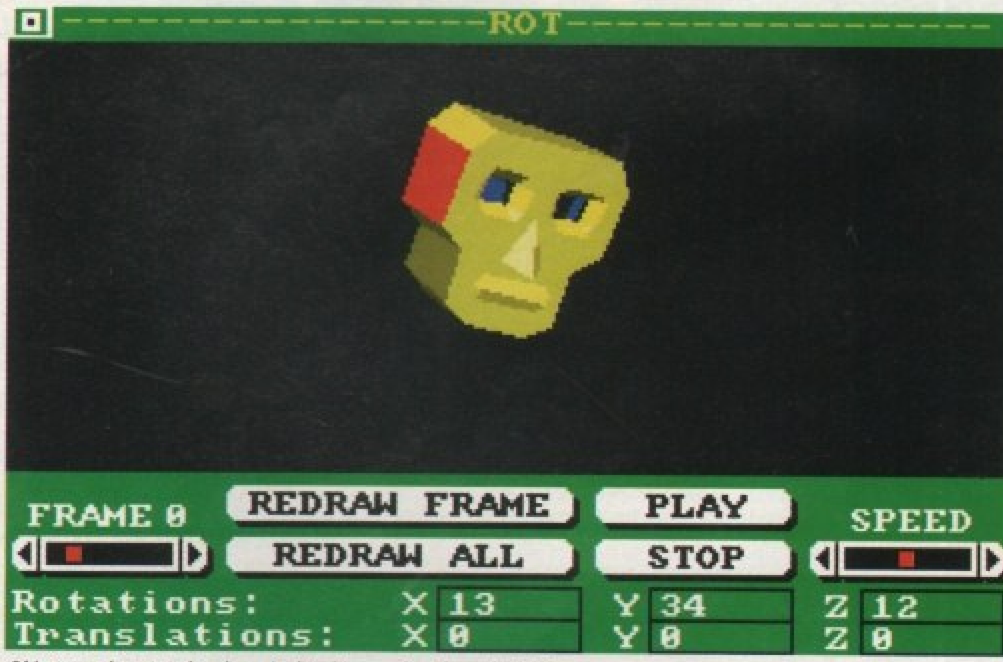
More than just a washing powder, Surf can distort your pictures as well

While Planet is all very ingenious stuff, there is another program included on the disk, called Surf, which takes the principle one step further and can distort the IFF files in all manner of ways. Not to be viewed if you have a weak stomach.

Mostra (v1.3) is a universal IFF viewer written by Sebastiano Vigna. By universal I mean that it can view any picture file no matter what its format. Very handy – now you can throw all the other viewers in the bin and just use Mostra.

One word of caution – you must have the arp.library (v39) in your libs: directory in order to run Mostra. I don't know why EdLib didn't bundle it with the package. Never mind – it's widely available in the public domain.

I couldn't resist finding out what the Rippers did – it sounded pretty gruesome whatever it was. It turns out they are two programs that probe around the Amiga's memory looking for graphics and then ripping them out – or should that be off? I suppose the potential for piracy does make them pretty gruesome after all. The first, Chip Rip 1Mb, is another Fatter Agnus utility. It scans chip RAM to allow you to view its contents, or save whatever you find as an IFF file. You can even load up a demo or game, reset your machine, and then load up Chip Rip to view or save graphics.




*Objects can be rotated and manipulated in any direction using Rot5*

In a similar vein, The Graphics Ripper by Peter Edwards is another tool for saving graphics games and demos. It works by letting the user search through the Amiga's chip RAM for images, and then position the individual bitplanes. It depends on the fact that the Amiga's memory is not completely erased after a reset, or on deallocation, so the program isn't guaranteed to work every time.



Rot5 is a weird name for a weird program. You could say it was a graphics rendering program, but on the other hand it is also an animation program, and yet on the other hand (three hands? – Ed) it could also be classed as a mathematical modelling program. Nevertheless it was deeply entertaining, adequately documented and kept me occupied for quite a while.

3DMaster Demo is supposedly a fast and powerful three-dimensional object editing, modelling and ray-tracing program. This is one of those programs that seems to promise you the earth but gives you "feature not available in this shareware version" messages instead.

Although the brief documentation makes the program sound promising, it contains no instructions on how to use it. It isn't accompanied by any demonstration pictures to load in. To add insult to ➤

injury the author, Martin F Staley, has disabled so many of the features in this demo version that it is next to useless.

In the doc file there is a thinly veiled threat: "If too many people are unwilling to support shareware distribution, they may eventually find the program sold for much more from a software company." Users are encouraged to send $30 in order to get a copy of the official version which supposedly works and has relevant documentation.

I think someone should tell Martin F Staley that this sort of sharp practice is not quite in the spirit of shareware. Public domain libraries might do well to ask themselves if they should encourage people like this by distributing their stuff in the first place.

Luckily this was the only dud program from a couple of disks that had a lot of good stuff on them. If you want an instant collection of graphics programs then this compilation is the one for you.

## Fruit Fun

**Canhams Leisure Software Disk 1081**

In my youth I used to like playing the fruit machines on the end of Margate pier. No, I never went on holiday to Margate, I lived there. In those days, one turn on the one-armed bandit would cost you one old penny, and the routine was quite simple. You inserted the penny into the machine, pulled the handle, the cogs whirred, the reels went round and if three identical fruits came up on the winning line the machine coughed up some money. Nothing could be easier. Hours of mindless entertainment for the masses. Life was simpler way back then.

But times have changed. The world is a different place these days. Margate pier no longer exists, I live in down-town Twickenham, and you need a degree to understand how to operate a fruit machine. That's presuming you can afford to pay ten new pence a time – ouch, that's two shillings a go!

The one-armed bandit has gradually mutated into a mad scientist's dream – flashing lights, music, skill challenges, multiple reels, auto-nudges and a bewildering array of extra features that, in my case, merely serve to confuse rather than amuse.

What I wouldn't give to step back in time and play a good old-fashioned one-armed bandit. Well, I've got the next best thing. Fruit Fun is a one-armed bandit simulation for those of us who like to see the pretty reels go round. OK, it's got a few modern features like holds, up and

# Animator's Delight

## EdLib Disks 8a and 8b

Stepping one dimension further than the world of graphics brings the Amiga user into the realm of moving graphics, or animations as they are more commonly known.

Anyone wishing to have a go at animation will be dazzled by the sheer number and diversity of the animation programs available in the public domain. And it's easy to get confused when trying to pick out programs by name. It would be really handy if some soul who knows about animation could put together a collection of programs that are essential to getting started. And that's just what EdLib has done.

Animator's Delight is the title of another two-disk compilation set from the EdLib library. As with EdLib's Graphics Master compilation, this is a collection of various subject-related programs ranging from the seemingly pointless to the mildly brilliant. As with the Graphics Master compilation, the point in favour of this set is that you get an instant collection in one hit. All the programs you'll need, for the moment, on two disks.

The list of programs includes Cryoutil, SplitAnim, CombineAnim, AnimBuild, AnimInfo, Hermit, Anim2IFF, MakeAnim, PPAnim, ShowAnim53, Movie1.3, Display, Anim, Animator's, LMV, Abridge and Directaction. In order to demonstrate the workings of some of the programs on these disks, the guys at EdLib have put together a cute animation sequence which you can watch when you double click on a screen icon.

As an added bonus there is a documentation file included with the bundle which explains how this animation was put together using the files included on the Animator's Delight set. The reason I say this is a bonus is because the file details how they struggled to achieve the result they wanted. If they had to struggle then it means that there is hope for the rest of us mere animation mortals.

Incidentally, if you find it a little odd that someone should be using an animation utility in preference to Deluxe Paint, it is probably because you are using III or IV of the program. The first two versions of Deluxe Paint didn't have animation facilities and consequently there is still a market for animation programs.

If you are about to dip your toe into the world of animation then getting hold of this package from EdLib would be a good start.



*A demo animation is included along with the story behind its creation*

down nudges and a gamble option, but not enough to get in the way of the actual gameplay.

Fruit Fun gives you £2 to start off with and costs 10p a go. Just like the real thing, the program is highly addictive and always wins all your money in the end. The good news is that the money isn't real so you can keep playing all evening, lose a fortune and still walk away no poorer.




The author even includes a cheat chart. What a nice man




An uncluttered screen lets you get on with the reel spinning

## Triple Yacht-Z

**Disk 2067 Virus Free PD**

Entertainment can be a mindless activity or it can require a little concentration.

Taxing the old grey matter with card or board games is good fun but requires the presence of one or more opponents. Fortunately computers can not only simulate games onscreen but can also assume the role of the opposing player(s). Triple Yacht-Z is one such program.

As its name implies, Triple Yacht-Z is a computerised variation of the old board and dice game called Yahtzee made by the E S Lowe Company. It was most popular in the 60s and early 70s.

If you've never played Yahtzee, it's a bit like playing Poker but using five dice instead of a pack of cards. Roll the dice and look for winning combinations of numbers.

You know the sort of thing – full house, runs, three of a kind, four of a kind and the like. If you roll the dice and all five turn up with the same numbers it's called a Yahtzee and you collect 50 points. As you play the game you try to increase your score by rolling different winning combinations.

I had never played Yahtzee before I came upon this disk. Although it's a strategy game, it's not difficult to pick up the rules. It didn't take me long to learn how to lose to the computer. Triple Yacht-Z differs from the original game in that all scores in the third column of your scorecard are worth three times as much as the normal value and those in the second are worth double. If that seems too much of a travesty then the program has an option to play the normal game as well.

The display screen contains four boxes – one for the scorecard, one for the high score table, another for the computer's "thinking" and the final one to display the dice.

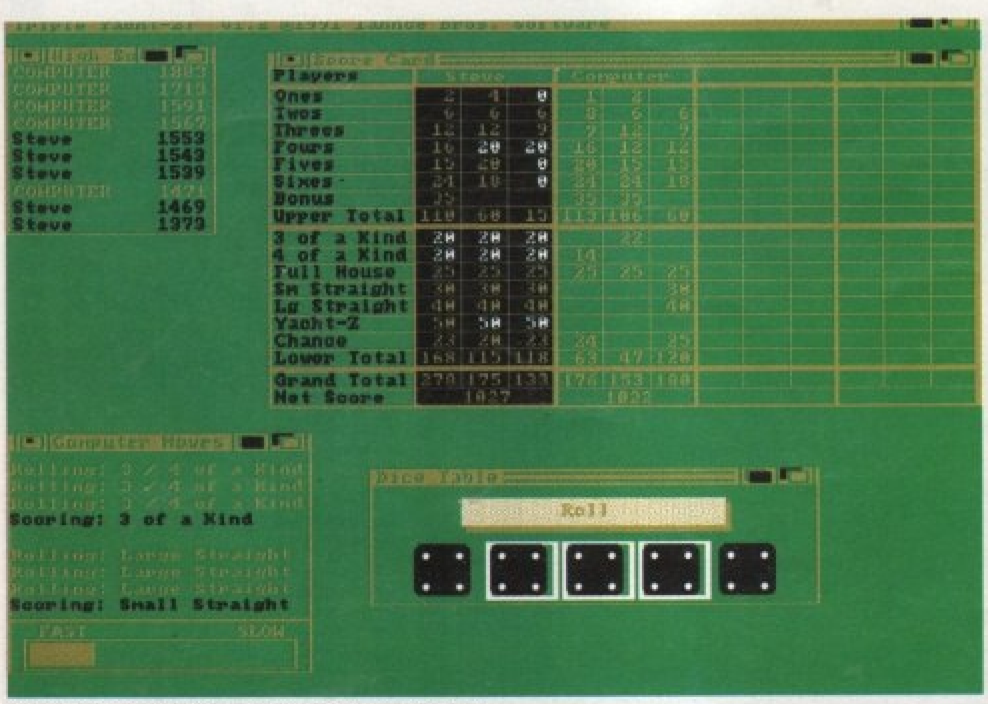
The digitised sound of dice rolling accompanies the throw of the dice and if you managed to throw a Yahtzee you hear the digitised sound of the author yelling "Yahtzee!" The effects aren't anything to write home about, but then they don't need to be because this is primarily a game of strategy. The game can be set up for to four players, and the computer can play any number of hands. A match is a series of games, up to a maximum of 51.

After each game the net score for each game as well as the grand total of all the nets is displayed for each player, and the player in the lead is highlighted. Playing a match allows you to even out the luck part of the game. The game itself is very, very addictive, and I found myself muttering "just one more go and I'll beat it this time" all too often. When I looked up at the clock it was the wee small hours.

You don't even have to know how to score the game. After each turn the program highlights all the places where you could possibly put your roll. The numbers in the spaces are the number of points that would be received for choosing that position. To choose a space you click on it. What could be simpler?

One last point. If you get a chance, even if you don't want to play the game, read the documentation because it's packed with humorous stuff.

The author, Stephan Iannce, is a strange but astute man – he classes the program as Flicker-fixer and Multisync Monitorware. In other words, if you enjoy the game a lot and would really like to thank him you could send him a flicker-fixer and a multisync monitor.




Yippee! I just got a Yahtzee and my score's looking healthy

## Who ya gonna call?

*If you want to get hold of any of these disks then give the relevant company a shout*

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G91 – Insiders Club – Stock Market strategy
APD59 – Super Quiz – Excellent quiz game
APD62 – Arcadia – Nice breakout clone
APD110 – Crossfire – Very nicely done
APD115 – Baloonacy – Superb for the kids
APD130 – Wooden Ball – Brilliant!!!
APD137 – Tile Trial – Good tile game
APD142 – Pair Crazy – Very good
APD146 – Fruit Machine – For the addict
APD148 – Demolition mission
APD149 – Gobbit/Pontoon – Both good
APD178 – Mastermind/Pairup – Good
APD180/1 – Dungeon Delver – Brilliant
APD182/3 – Pixie Kingdom – Very good
APD314 – Blackjack Trainer – Superb
APD315 – Silver Bars & The Enemy
APD326 – Hyperball – *Best yet, get it*
APD329 – Fruit Machine – Brilliant game
APD334 – Snake in the Grass – OK

### BUSINESS & SERIOUS
B02 – Wordwright – Wordprocessor
B04 – Clerk – Accounting
B06 – U-Edit – Very powerful wordprocessor
B07 – FleKsibase – Powerful yet easy to use
B08 – Rim Database – More involved
B09 – Amibase *V3.76* – Excellent database
B10 – Inventory & Memopad – Very handy
B12 – Business Card Maker – Pretty Good
B14 – Visicalc – Similar to Lotus 1-2-3 on PC
B15 – MicroEmacs – Text editor + S/checker
B17 – QED – Superb text editor
B18 – Textplus *V3.0E* – Edit crunched files!
B19 – 600 Business Letters – Brilliant
B21 – BBase II – Easy to use database
B22 – DataBase Wiz – Name & address
B23 – Textengine V3 -Quality W/Processor
B30 – AMIBASE PROFESSIONAL II
APD36 – Amos updater V1.32
APD52 – Forms Really Unlimited
APD132 – Family History Database
APD138 – Spanish Tutor – Pretty good!
APD176 – DataBase Master V2
APD257 – Cassette Labeller – For the inlays

### SLIDESHOWS & PICS
P05 – Pendle Europa Slideshow – V. Good
P09 – Sunslide II – Exceptional quality
P11/2 – Nasa Slideshows – Both 1 & 2 here
P25 – Roger Dean – Excellent slideshow
P28 – Sunslide III – Brilliant follow up
P32 – Agatron 6 – From Tobias Richter
P33 – Agatron 8 – More from TRs stable
P41 – Nemesis Prologue – From Hanibal
P47 – Joe Slideshow – Exceptional artwork
P48 – Psygnosis Slideshow – Rather brilliant
P62/3 Channel 42 & Silents – Very good
P65 – Agatron 12 – Fantastic quality
P66 – Fraxion Future Visions – Very good
P67 – Agatron 11 – Incredible standards
P76/7 – Nemesis Chapt. 1 – The next chapter
P78/8 – Laurel & Hardy – Brilliant for fans
P83 – Invisible World – Bugs n things
P85 – Robocop – By Hanibal, *Unbelievable!!*
P89 – Art for Arts Sake – By Hanibal, Brill
P91 – Pixelium – Absolutely superb
P93/4 – Star Trek Megademo – 1 Meg min
P95 – Rick Parks Art – Quite incredible

### ANIMATIONS (most 1mb)
A06 – More Aerotoons – By Eric Schwartz
A10 – Batman – This is brilliant (by ES)
A11 – Puggs in Space – Brilliant
A12 – Probe – The most famous of all anims
A17 – Stealthy II – Excellent little animation
A19 – Star Trek Fleet Manoeuvres – Good
A20 – Agatron 26 – Dry dock
A13 – Agatron 2 – Includes F15 fighter
A48 – Busy Bee & Tree Frog – Very good
A49 – Fractal Flight – Small screen anim.
A58 – Walk – Brilliant chrome legs walking
A61 – Agatron 15 -Billiards & Lotus + F15
A62 – Stamp Collector – Brilliant sequence
A63 – Juggler II – Very, very funny. See it!
A67/8/9 – Station at Kerne – 2 Meg
A70/1/2 – Lost In Space 2 Meg
A76 – Agatron 30 – Millenium Falcon
A77 – Agatron 17 – Twok and Mensch
A78 – Agatron 24 – Kull and ping pong
A79 – Agatron 33 – Probe & bird of prey
A81/2 – Walker & A1000 – 2 Meg
A83 – Discovery Shuttle – Very good
A84 – Agatron 36 – Bird flight
A87 – Car – Lotus & Unicycle, brilliant
A88 – Bunsen Burner – Brilliant 3D flight
A89 – Agatron 22 – Includes aproach + more
A90 – Agatron 20 – Belle Huey Helicopter
A91 – Franklin the Fly – Needs 2 drives
A94/5 – X-Wing – Rather brilliant sequence
A96/7 – Light Cycle – From Tron and Brill!
A98/9 – Anti-Lemmings – 2 Meg
A100/1/2/3/4/5 – The Wall – Exceptional
A107/8/9/10 – The Landing – 4 Meg
A111 – Mars – Absolutely incredible, get it!
A112 – Juggette II – Another hilarious anim
A115 – Agatron 27 – Book and others
A116 – Agatron 28 – Disconnect, Beautiful
A117 – Agatron 29 – Millenium Falcon
A124 – Shuttlecock – By Eric Schwartz
A126 – Real 3D Anim – "Real Pinball"
A127 – Real 3D Anim2 – T-Pot and balls (?)

### MUSIC
M01 – Sound Samples – Includes perfect sound
M04 – Vangelis – Brilliant music & graphics
M10 – Jean Michel Jarre – With good pics
M18 – Amigadeus – By Rod Baxter, Brill
M19 – Classix 1 – Mr Baxter strikes again!
M20 – Classix 2 – More of his formidable work
M35 – APDL 28 – *MIDI UTILITIES*
M42/3 – Soundtracker *V4* -Excellent
M52/3/4/5 – Modules – Need I say more?
M58/9/60 – Metal Modules – Good
M61/2/3 – Sound samples for S/Tracker
M88 – Pendle Europa 6 – Excellent disk
M105 – Burning Independence II – Brill
M115 – Scoopex Music Utils – By the score
M131 – Deluxe Music Data – Needs DM
M134 – Kefrens Jukebox – Good
M145 – Midi Programmes
M152 – Midi Programmes – More
M165 – MED *V3.2* – *Latest Edition!*
M169 – Chip Music – 43 tracks to hear
M172 – Audiomagic *V1.1* – Brilliant utilities
M175 – Startracker – 8 track tracker (?)
M186/7/8 – Do The Bartman
M192 – Do The Bartman Re-Mix!!
M196 – Powerlords Sound Utilities
M198/9 – Vivaldi – By Rob Baxter
M201/2/3 – House Samples
M208/9 – RSI Modules Disks
M216 – Drums & Pipes – Brilliant
M223 – RSI Modules Disk 3
M225 – Audiomagic *V2* – More utilities
M227 – Psygnosis Samples – Sound samples
M230 – Jean Michel Jarre Live – *Brilliant*
M234 – Delta Music Editor – Very good
M236/7/8 – Deep Deep Trouble – Good
M247 to M261 – Soundtracker – Instruments
,267/8 – Soundbarrier III – By Mark (ta)

### DEJA VU (incorporating AMOS licenceware) £3.50
LPD1 – Colouring Book – Simple for pre-school children upwards 512k
LPD2 – Arc Angel Maths – Educational games, add, subtract etc, etc 512k
LPD3 – Galeons – Very effective follow up to the Dogfight game, Excellent 1 meg
LPD5 – Jungle Bungle – Superb adventure game for kids, Icon driven 1 meg
LPD8 – Work & Play – 3 educational games for young kids. Recommended 1 meg
LPD14 – Play It Safe – Aimed at educating the young kids about safety 1 meg
LPD22 – LC10/200 Fonts – This enables you to install more fonts in your printer 512k
LPD25 – The Mission – Brilliant text adventure written in Hi Soft 1 meg
LPD27 - Flower Power – Educationally orientated for the very young 1 meg
LPD28 – BudBase1 – Beautifully easy to use and extremely user-friendly, try it 512k
LPD29 – Big Top Fun – Yet another brilliant educational game from Len Tucker 1 meg
LPD30 – Shymer – Wonderful adventure game for kids, beautiful graphics 1 meg
LPD32 – Hard Drive Menu System – Superb hard drive utility, used by us!
LPD33 – Amos Adventure Kit – This needs AMOS to enable you to create your own adventure games, excellent
LPD34 – Invoice Printer – For use by the Small Business firms 1 meg
LPD35 – T-TecDraw – Full technical drawing program. Fantastic results. 1 meg
LPD38 – Amos Art – Full of goodies for inclusion in your own AMOS creations
LPD40 – SpriteBank Editor – Bloody Superb, Need I say more? Needs AMOS
LPD41 – Rescue – Created using incentives 3D con kit and is nicely done! 1 meg
LPD45 – MUSIC BOX – The ultimate in music education for kids 1 meg
LPD46 – Magpies Clipart – Crystal clear images of clipart, categorised 512k
LPD47 – Dirty Cash – Beautifully done fruit machine simulator, excellent 1 meg
LPD49 – Marvin the Martian – A traditional maze game, for children 1 meg
LPD50 – Magpies Clipart 2 512k
LPD51 – Magical Young Artist – A colouring in type program for kids 512k
LPD52 – LC24/200 Fonts – Thought to be compatible with most printers! 512k
LPD53 – Magpies Clipart 3 512k
LPD54 – Magpies Clipart 4 512k
LPD55 – SpriteX V1.32 – An update to the earlier version and enhanced AMOS
LPD56 – C Text V1.32 – An extension to AMOS to allow you to use icon based fonts which can be drawn in up to 16 colours. Some fonts are supplied on disk. AMOS
LPD65 – Power Planner V1.0 – A combination appointment planner and name and address daba-base with telephone numbers, runs fine on 512k
LPD68 – Virus Buster by Rod Pascoe – Very easy to use Virus Killer with intuitive user interface. Recognises all new Virii as well as the older ones. Has hard drive install programme and full documentation. 1meg
LPD69 – Magical Mix-up – By Daisy Software. Very addictive jigsaw type game, you choose how many pieces you wish to cut the picture into, from 6 to 100 512k

**All Deja Vu products listed are fully A500 plus compatible!**

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## Ezra Surf's Postbag

*Got something to say through the pages of AC?*

*Ezra Surf is our mailman, dedicated to sitting in a corner reading your letters and selecting the most interesting for publication. Ezra's favourite letters now get rewarded with an exclusive Amiga Computing designer T-shirt.*

*Drop him a line at:*

*Ezra Surf's Postbag, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP.*

*Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to shorten your letters, so don't be offended if you get the chop.*

## An honest pirate?

In response to your article, I feel compelled to write in defence of some of us so-called pirates. I pirate games. I have many, many disks full of the so-called latest software, some of which hasn't even been released over here yet, ie Midwinter II, Utopia etc. However I'd like to explain why I pirate software.

Although I have lots of disks full of games, they usually get loaded up and played for a few hours and then they sit in the disk box until I either blank them or copy something else over them. I suppose you can call me an end user. I very rarely pass copies on to other people, and I very rarely use the pirated games more than a few times.

Yes copying them in the first place is stealing, but what harm are people like me doing in the industry? Not any I believe. I still buy software, but it has to be really good to warrant me spending $30 to $100 on it. Call me an honest pirate, I suppose. Many times I have gone out and bought the original when I had a copy already. I treat the world of software piracy kind of like shareware – mind you I'm honest. Have you ever tried learning to play Powermonger without the instructions?!

Thank you for the opportunity to express my opinion. I haven't included my full name and address mainly because I don't want my computer confiscated by the cops.

*Rob X, Perth, Australia*

**I won't call you an "honest pirate" because the simple fact is you are a criminal. If you don't think you are doing any harm to the software industry you're not just arrogant, you're stupid too.**

## A bit of a bind

I have been a reader of *Amiga Computing* since its first issue and have bought every issue since then. Every year I buy the blue binder and place the allotted 12 issues therein. The original June 88 issue had 88 pages and no CoverDisk. The December '91 issue had a massive 212 pages and a CoverDisk, reflecting the success and ever-increasing value of what I consider an excellent magazine. However, this does pose a small practical problem with the *Amiga Computing* binder as it can now no longer hold 12 issues. Is thee any possibility of a solution to this before the June '92 issue? (PS making the magazine 88 pages again is NOT an option!)

*Steve Phillips, Stevenage, Herts*

**Well, you will be pleased to know that our binders are now thicker and wider than ever before. It should be just about possible to cram twelve issues of *AC* into our stylish new black binder.**

## Drawing a blank

Whilst I agree with most of the article Knaves & Thieves in the October issue, I do not agree that if software piracy was eliminated then prices for software would probably drop.

The only result would be higher prices due to there being less of a threat from these pirates.

The only reasonable answer to this problem is the one that was applied to the cassette tape industry, who were also faced with piracy. That is, a small levy on every blank tape sold – to be distributed amongst the record companies.

This solution could be easily applied to software use. One could argue that genuine users of disks suffer as well as copiers, but no outcry was heard from cassette tape users.

I personally would not mind an extra five or ten pence on the price of a disk, if it kept the games software industry in a developing market.

*Geoff Bonell, Lancs*

**I'm not entirely convinced that you can draw a valid parallel between the music industry and computing. A blank floppy can be used for storing data, PD or even your own programming efforts.**

**A blank audio cassette, on the other hand, is typically used for copying either radio broadcasts, CDs or albums. It is true to say that some people record their**

➤

## Absolute Beginners

**PRIZE LETTER**

When I bought my Amiga in December 1988, it was still a very new and unknown machine. I read the limited reviews, made my choice and have never regretted it.

Now, three years later, the hobby has taken over an entire corner of my living room. I have about 60 magazines (mostly *AC*), over 200 disks, including coverdisks, public domain, business software and of course games. I have added to the hardware over the years and am quite proud of my collection.

The computer is used every day without exception (mostly by my 12-year-old son) and a large slice of time is allotted to the hobby.

I now ask the question – can we afford to spend all this time "staring at a screen" as my daughter puts it? Are we putting our experience to beneficial use? Are we getting the best out of it, and what on earth did we do with all this spare time before the Amiga came along and dominated our lifestyles?

How many of your other readers must be asking themselves the same question, having got themselves trapped by the ever-increasing wealth of available information, more elaborate software and sophisticated manuals and accessories? Do we have time to read them and apply them properly?

There must be so many like me who have not had the time to fully appreciate and understand our machines, yet every article I have read which purports to be for "beginners" usually rambles off into technical jargon, CLI, this file that file, until eventually it is cast aside in despair along with all the other so-called tutorials.

There is no doubt that the growing interest in Amiga and other computers is multiplying at an alarming rate – viz the Earls Court show which at 11am could only be described as worse than a packed tube train in the Christmas rush hour. With so many users new to the Amiga, there is a market for a beginners' feature in your magazine and it should tackle one project a month using the same step-by-step guide as your excellent MED tutorials.

For starters, I would like to be able to take a formatted disk, make it self-booting, create a customised startup sequence, and copy the files from my CoverDisk and PD collection which I find most useful. This will enable me to format the old disks and create more space in my disk boxes! Will *Amiga Computing* take up the challenge to show us growing army of novices how to understand the basics instead of allowing us to be caught up in the rush of jargon and technology, just scratching the surface and wondering what it's really all about?

*C Kostryke, Kent*

**I don't really see what's alarming about more people catching the Amiga bug. It's good to see people making the most of the machine with hardware and software which is advancing month by month.**

**I can understand your frustration with jargon. The problem is that beginners have to be introduced to the ins and outs of CLI, floppies and commands eventually.**

**If you picked up last month's issue you will have already had the benefit of our Absolute Beginners booklet. Now, why not take a look at part one of our major new series especially for beginners, which starts in this issue?**

own first generation stuff on to cassette, but I think you will find that experience fairly limited in comparison to blank floppies which are commonly used for original data.

It's an interesting proposal though. I wonder what the European Software Publishers Association would make of it...

## Pay your dues

I was very interested in the news item about Saddam on the December issue of *AUI*. I tested their disk (as I do with all new disks) with Virus Checker, so kindly supplied by you.

The Saddam box came up and then informed me it had deleted the disk-validator file.

I then copied the file from my Workbench disk and it now works fine.

I wrote to *AUI* two days after purchasing their mag (about four weeks ago now) but so far have not had a reply. Since installing Virus Checker I have found one Byte Bandit and one Lamer which VirusX and ZeroVirus had missed.

Although I do not get too paranoid about viruses, I am going to send some money to the author, as I think anyone who tries to make life easier for us should be recognised. I don't buy a lot of commercial software as I am more of a tinkerer than a player.

Final words – always check new disks with an up-to-date virus checker and your Amiga days will always be fun. You have a great magazine although there are too many adverts for items that I don't think a lot of us can afford!

*Brian Travers, Leicester*

**If everyone sent the author of Virus Checker a fraction of the cash they have saved by using it he would be a very rich man.**

**I obviously can't comment as to why *AUI* haven't replied to you – perhaps your letter got caught up in the Christmas post.**

## Feel the width

As a subscriber of several years standing to the best computer magazine on the market, I would ask you to please pay a little attention to the size of your binders.

I have copies since issue one and am finding it quite impossible to get twelve copies into a single binder – Are you trying to sell the maximum number of binders?

Whatever your objective, it is most frustrating to have to fight with the binder only to find that about ten issues is the maximum load.

Incidentally I am now needing further binders, but I am putting off ordering them until I know what your response to this letter might be.

*V Eva, Lancashire*

**If our binders get any bigger they will be too heavy to lift up and open! We reckon you can just about get 12 issues into the new binder, but if *AC* continues to grow at the current rate we will have to review the situation again pretty soon.**

## A case of real ESP

Just a quick note to say thanks for putting Virus Checker 5.24 on your CoverDisk. It saved me a lot of hair pulling as I picked up Saddam on the CoverDisk of a rival mag! – same month (ironic eh?) – Did you have ESP? FixSaddam worked eventually although I found the docs a bit misleading, but that's not your fault! Brill mag... buy it all the time... blah... blah... Do I win a genlock?

*C Stock, Macclesfield*

**Nope, no genlock, but thanks for your comments. Of course we have ESP, that's why we put a virus checker on our disks every couple of months!**

## Ezra online

Ezra Surf can be contacted on a whole host of bulletin boards and conferencing systems. If you have anything to say, get it off your chest online!

Amiga Computing also has its own Fidonet echo which is being carried by BBS systems throughout Europe. Any Fido sysops interested in hooking up should collect AMIGA_COMP off the backbone.

If you are experiencing difficulty, please contact Tony Miller, sysop of our home board – 01 for Amiga.

Additionally our mailman with the most, Ezra Surf, hangs out on the following services:

| Service | Account number |
|---|---|
| Prestel | 999800263 |
| Telecom Gold | 74:MIK911 |
| CiX | amigacomputing |
| CompuServe | 70007,4734 |
| The Direct Connection | uad1132 |
| 01 for Amiga | Amiga Computing |

## Saved from Saddam

Two items from a grateful reader. First, I use the Virus Checker from your November CoverDisk. As a routine I boot up my Amiga 1500 with the disk on to which I have copied the Virus Checker. I run the Virus Checker, then put any new disks I have acquired into df1.

I did this with the *AUI* CoverDisk from the December 1991 magazine on the morning that the magazine was first on sale. The reaction from my Amiga 1500 was to say that the disk in df1 was write-protected. I made it writ-enabled, re-inserted and immediately got the danger signal that a Saddam-type virus had been found on the disk validator, and this had been destroyed.

I telephoned *AUI*, and was told "They knew about it, but it had not been confirmed that it was Saddam". I advised that I was sending the disk back to them for replacement virus-free, and was concerned that many Amiga owners may not yet have any virus-cheking discipline.

This morning I have received a replacement disk from AUI's duplicators, TIB. The first couple of lines of their letter read "Thank you for returning your CoverDisk. Enclosed please find a replacement copy." The letter then takes 25 lines to tell me of a special offer on 3.5in diskettes. In the circumstances I find this a callous lack of concern for the problem and its possible consequences.

I read your article "Saddam on the loose" in the January Issue with great interest. I had hoped to see some mention in the January 1992 issue of *AUI* which I expected to see on sale yesterday. I have not seen it on sale. I have seen many copies of the December issue still on date.

I am grateful indeed to your magazine for its Virus Checker and also for writing the news article to bring the problem to public notice.

*W H Sarman, Derbyshire*

**It's great to hear that we managed to potentially save some data for you, and it just goes to show that you can never be too careful with any disk.**

# CONTACTS

**It's not what you know – it's who you know!**

### TECHNICAL PROBLEMS

We are happy to answer your technical problems in our ACAS section. Send your letters to **ACAS** at the address below

### NEWSDESK

If you have a news story, send it to **John Butters** at the address below. If your story is URGENT call him on **0625 878888** during office hours

### GALLERY

We are always on the look-out for good Amiga art. Send your work (as an IFF) to **Amiga Gallery** at the address below

### EZRA SURF

Got something to tell other *Amiga Computing* readers? Send your general letters to **Ezra Surf's Postbag (ESP)** at the address below

### COMPETITIONS

Enter competitions using the details on the form. If you have any queries contact **Jonathan Maddock** on 0625 878888

### PUBLIC DOMAIN SUBMISSIONS

PD libraries are welcome to submit their latest releases. Submissions should include a detailed list of what each disk contains. Jiffy bags to **Stevie Kennedy**

### ALMANAC

Our Almanac authors can be contacted via *Amiga Computing*. Please mark any correspondence clearly and send it to the address below

### ADVERTISMENT PROBLEMS

If you have had a problem with one of our advertisers please contact **Martin Fitzgerald** on 0625 878888 or write to him at the address below

### FAULTY COVERDISKS

If your CoverDisk is faulty send it to: **Stanley Precision,** Unit F, Cavendish Courtyard, Sallow Road, Welldon North Industrial Estate, Corby, Northants NN17 1JX

### SUBSCRIPTIONS & BACK ISSUES

To subscribe or order back issues please use the form at the back of this issue or call **Europress Direct** on 051-357 1275. Please note we only hold back issues for six months

### THE WORKSTATION

Technical enquiries about the Workstation should be sent IN WRITING to **Workstation Support** at the address below. Please return faulty disks to the supplier

### COMMENTS

If you have a any comments about the editorial content of Amiga Computing please write to the **Editor-in-chief, Eddie McKendrick** at the address below

### TELEPHONE CALLS

Except in the situations listed above we **cannot accept telephone enquiries.** Please write in to one of the departments listed in this panel

### SAVE THOSE SAEs!

Please don't send us SAEs, we can't promise to reply to every letter so it really is a waste of your stamp. Sorry!

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| **Protar** A500 HD 30Mb 0Kb RAM | £325.00 |
| **Extra** RAM 1Mb | £55.00 |
| **Extra** RAM 2Mb | £109.95 |
| **RAM** power supply | £31.95 |
| **Commodore** A590 20Mb 0Kb RAM | £289.95 |
| **Commodore** A590 20Mb 1Mb RAM | £phone |
| **Commodore** A590 20Mb 2Mb RAM (fitted) | £369.00 |
| **GVSP2** 52Mb on/off switch 0Kb RAM | £389.95 |
| **GVSP2** (expandable up to 8Mb) | £phone |
| **GVSP2** 105Mb 0Kb RAM | £590.00 |
| **Supra** 500XP 80Mb 0.5Mb RAM fitted | £589.95 |
| **Supra** 500XP 52Mb 1Mb RAM fitted | £339.95 |
| **Supra** 500XP 105Mb 2Mb RAM fitted | £689.99 |

## Modems

| | |
|---|---|
| **SupraModem** 2400 | ~~£128.00~~ £99.00 |
| **SupraModem** 2400 MNP (MNP 2-5) | £158.00 |
| **SupraModem** 2400 Plus (MNP / V24bis | £179.00 |
| **SupraModem** 9600 Plus (V32 MNP V42bis) | £499.95 |

all modems come with FREE RS232 lead / K-Comm software

## Peripherals

| | |
|---|---|
| **Commodore** A2088 XT bridgeboard | £289.95 |
| **Commodore** A2686 AT bridgeboard | £656.95 |
| **Commodore** A23000 1500/2000 internal genlock | £89.95 |
| **Commodore** 1535 display enhancer 1500/2000 (requires multi-sync monitor) | £229.95 |
| **Cumana** external disk drive | £59.95 |
| **SupraRAM** 500RX slimline memory expansion. Uses expansion port with bus pass, through test mode software on/off switch. | |
| **8Mb** exp with 2Mb installed | £194.95 |
| **SupraRAM** 500RX with 4Mb installed | £267.95 |
| **SupraRAM** 500RX with 8Mb installed | £418.00 |
| **Podscat** 12*12 drawing inc puck / pen-cursor | £193.95 |
| **External** 5.25" disk drive | £145.95 |
| **8802** genlock | £234.95 |
| **8802** mode switch box | £34.95 |
| **8802** extension cable | £9.95 |
| **Minigen** genlock | £109.95 |
| **Naksha** mouse | £22.95 |
| **Optical** mouse | £43.00 |
| **High** quality Euro mouse ST/Amiga | £19.95 |
| **Phantom** SMPTE generator | £239.95 |

## Printers

**All our printers come with a free Amiga drivers disk**

Inks for JX730 .......... £7.95

'New' **Star** LC-20.
This is the great new printer to follow that superb classic, the LC-10. New features include 180cps draft / 45cps nlq, mono, 8 fonts, friction / tractor, paper park, auto load
**£169.95**

**Star** LC-200
Colour / mono, 9 pin, 45cps nlq / 180cps draft / hi speed draft 225cps, 16Kb buffer, friction / push pull tractor
**£209.95**

**Star** LC-24200
Colour / mono, 24 pin, 67cps nlq / 200cps draft / hi speed draft 222cps, 7Kb buffer, expandable to 39Kb, 10 fonts, optional font cards, friction push or tractor pull.
**£295.95**

**Star** LC-2410
Mono, 24 pin, 45cps nlq /180cps draft, 8 fonts, optional font cards, paper park, excellent 24 pin .......... £209.95

'New' Star Pro-to-col series

**Star** ZA-200
Colour / mono, 84cps nlq / 336cps draft / 420cps hi speed draft, 32Kb buffer, 8 resident fonts, friction push tractor, advanced paper park, autoload, 1 year on-site warranty .......... £369.95

**Star** ZA XB24-200
Colour / Mono, 24 pin, super letter quality with 48 pin feature, 4 SLQ fonts, 14 LQ fonts, 100cps lq / 332cps draft, 20Kb buffer .......... £phone

| | |
|---|---|
| **Seikosha** SP-1900 (Amazing price, superb printer, 192 cps draft, 48 cps nlq, Paperpak) | £115.00 |
| **Seikosha** LT-20 24 pin notebook printer, amazing sive (sits under a laptop) | £270.00 |
| **Seikosha** SP-2000 Parallel, serial, interface, Paperpak, 21K buffer, 192 cps draft, 48 cps nlq | £144.90 |
| **Seikosha** SL-92 24-pin, 240 cps draft, 66 cps nlq, 44K buffer, 360x360 dpi graphics and a host of features. A superb printer only | £211.99 |
| **Citizen** 120D+ | £133.75 |
| **Citizen** 124D | £182.95 |
| **Citizen** Swift 9 | £199.99 |
| **Citizen** Swift 24 | £295.95 |

Free colour kit with Swift printers, worth **£39.95**

| | |
|---|---|
| **Commodore** MPS 1270 inkjet | £189.95 |
| **Commodore** MPS 1230 9 pin mono | £145.00 |
| **Commodore** MPS 1550C 9 pin colour | £219.95 |

### SPECIAL OFFER

**PrinterPak** comprising of: cable, 200 sheets of paper, printer stand. Normally £29.95, when ordered with any printer, only .......... £14.95

We stock a full range of books, joysticks, ribbons,music software, hardware, disk storage, boxes, cables, etc.
Please call: 04024 38438
Government and trade orders welcome

# ...stal Clear New Year

**Crystal's CDTV Pack**



## Commodore's CD-TV

**Multimedia system for the home.**
**A new dimension - A new lower price.**
**The ultimate in home entertainment and education**

*INCLUDES*

CDTV ..............................489.00
- ☆ Welcome. A guide to CDTV (value) 34.99
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|---|---|
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| Cinderella (6+) | 34.95 |
| Fun School 3 (3-5) | 21.95 |
| LTV English | 29.95 |
| My Paint (3-9) | 25.95 |
| Paper Bag Princess (6+) | 29.95 |
| **Music** | |
| CD Remix | 25.95 |
| Music Maker | 29.95 |
| Musicolour | T.B.A |
| **Arts & Leisure** | |
| Women in Motion | 25.95 |
| Trees, Shrubs, Conifers | 29.95 |
| Indoor Plants | 29.95 |
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| Classic Board Games | 29.95 |
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| Case of Gautios Condor | 29.99 |
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| Sim City | 25.95 |
| Pro Tennis Tour II | 25.95 |
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**This is a small list of titles available.**
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**Crystal's Spellbinders Pack**

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512K RAM expansion

*PLUS*

Pro-write 2.5 – *word processor*
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*PLUS*

10 blank disks, deluxe mouse mat
☆ resource file – *curriculum guide*
☆ introductory video – *pop it into the VCR and relax*

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**FREE** Crystal gift voucher (value £6)

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*All our Amigas are UK specified, and unless stated, consist of the following:*

1. 3 operating manuals
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3. Commodore mouse pointer
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7. 4096 colours
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9. 512Kb RAM or 1Mb built-in
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11. Tutorial disk
12. Extras disk 1.3 or 2.0
13. Digital 4 channel stereo
14. Built-in 'notepad' simple w/p
15. Amiga BASIC language
16. Necessary cables

### To order

**Just telephone our sales hotline number – 04024 38438 9am to 10pm. Quote your full name and address, your Access / Visa / Creditcharge number, along with your requirements. Include your daytime telephone number. Or, send your personal / building society cheque / bankers draft, with full details, to our mail order address: Unit 4, 11a Station Lane, Hornchurch, Essex, RM12 6JL. All prices are inclusive of VAT.**

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Our deluxe gift vouchers can be easily used, just phone our sales number – 04024 38438. To purchase a gift voucher, call our sales team. If you have recieved a free gift voucher from us (1 per sale), it can only be used on goods whose total value exceeds £50 excluding postage.

### Backup service

We honour the warranty's as given by the manufacturer, subject only to proof of purchase. Where Amiga hardware has failed in the first 28 days, we will exchange that item with a new replacement. After 28 days equipment will be repaired.

### Collections

Visitors are welcome at our retail showroom and collections can be arranged with dispatch manager – phone 04024 38438.

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All advertised products over £100 can be purchased on our Creditcharge store card, tailored to your needs. APR 36.8% (variable). Full written details available on request. Subject to status. Finance is for UK mainland residents and BFPO Personal only. You may use any Lombard Creditcharge card for purchase, subject to credit limit.

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**This months Crystal Ball**
'Euromouse' ST/Amiga switchable. **£14.00**

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AC

# UNIQUE

## A500 AND A500 PLUS SOFTWARE

**AUTHORISED DISTRIBUTORS OF NEWSFLASH, DEJA-VU & POLLYSOFT LICENSEWARE**
**ALL DISKS CHECKED AND GUARANTEED VIRUS FREE.**

### THE COMPLETE FISH COLLECTION 1 to 590. ALL MASTERS ARE ORIGINALS FROM FRED FISH IN ARIZONA.

**FF-563 BBASE II V5.0:** A simple database program using an intuition interface. Sorts and searches for information. Limited to 9 fields in each record features include fast sorting in any field, and best of all it is really easy to use.

**FF-564 DISKEY V2.1:** A sector oriented disk monitor with lots of useful features like disassemble, user friendly ASCII and HEX editing facility and extensive search options. Useful for salvaging data from damaged disks or learning about the Amiga's inner workings.

**FF-568 CALORIEBASE V1.1:** A program designed to provide a calorific and fat count for recipies that do not provide this information. It can also quickly give the calories for a specific food or total the calories you consume throughout the day.

**FF-571 SYSINFO V2.53:** A program which reports interesting information about the configuration of your machine including chip versions and some speed comparisons.

**FF-572 MULTIPLOT XLNc:** An intuitive data plotting program featuring flexible input options, arbitary text addition, automatic scaling, zoon and slide with clipping at boundaries, a range of output file formats and publication, quality printed output. Workbench printers are supported via transparent use of the PLT: device. Postscript and HP laserjet are directly supported.

**FF-573 MULTIPLAYER V1.11a:** Music player program that plays Soundtracker/Noisetracker modules MED modules and over 15 other types. Contains a single control panel and allows creating "programs" to play a list of modules in sequence or random order. Plays modules at correct speed regardless of video mode (NTSC PAL) works well with dos 1.3 and 2.0 machines.

**FF-574 NEWZAP V3.3:** A third generation file, sector editing utility from the author of filezap. Displays and edits full 512 byte sectors via a 106 character wide internal font. Includes a search feature to find specific strings or hex digits forwards or backwards. User customizable with new printing feature added. Plus compatible.

**FF-575 AMIGATONTSC:** Patches graphics library so it will think you have an NTSC Amiga. Custom windows open in the mode selected. AMIGATOPAL also included.

**FF-576 TERM II V1.1:** A telecommunications program with some nice features, including an ARexx port, external process communications, XPR support, Programmable function keys, postscript downloading to laser printer, phone book, programmable panel buttons, public screen support etc. documentation in English and French. Requires dos 2.0.

**FF-577 TURBOQUANTUM:** A SCSI bit twiddler program that will set or clear the "disable disconnection" bit in a quantum drives control parameters. Can result in a large performance boost on some systems.

**FF-578 SPICE3 V3e2:** A circuit analysis program. This version was written in C and includes dynamically allocated memory, interactive post processing and graphical plots. Requires a minimum of 1 meg.

**FF-579 BINTOHUNK:** A utility to convert a raw data file (text, bitmapped graphic etc) into an Amiga hunk format object file that can be linked using Blink.

**FF-580 WORLDDATABANK V2.2:** Using a database of co-ordinates compiled by the CIA and made available under the freedom of information act, this program plots world maps in cylindrical or spherical projections with various degrees of magnification. Includes the largest available data file for detailed mapping of even small sections of the globe. Disk includes source code.

**THE FRED FISH BOOK**
A fully descriptive book with 128 pages along with a full sorted index. Covers disks 1 to 560 only £4.99.

**ALL DISKS LISTED IN THIS COLUMN ARE 500 & 500+ COMPATIBLE**

### DEJA-VU LICENSEWARE £3.50 PER DISK INCLUSIVE

**LPD-001 COLOURING BOOK:** A nice colouring in program with several nursery rhyme pictures an excellent program for young children.

**LPD-004 THINGAMAJIG:** Kiddies jigsaw type program with 24 pictures to choose from and a difficulty level. 1 meg.

**LPD-008 WORK AND PLAY:** 3 educational programs for the kids. Click Clock, Fun Times Tables and Lets Go Shopping. 1 meg.

**LPD-010 THE WORD FACTORY:** A neat spelling game for the kids. 1 meg.

**LPD-015 ARC ANGELS SHAPES:** Fun for the kids, build colourful pictures from predefined shapes. 1 meg.

**LPD-022 LC10 FONTS:** Down load more fonts to your Star LC10 or LC200 printer. Also a utility to help create your own fonts for these printers.

**LPD-029 BIG TOP FUN:** A top quality educational program three games based on circus acts. 1 meg.

**LPD-039 MAGIC FOREST II:** Version 1 was given away free with Amos this program is far superior and continues the story set by version 1. 1 meg.

**LPD-041 RESCUE:** A 3D adventure in which you must solve a murder. You can click on objects and examine them for clues etc excellent value.

**LPD-052 LC24/200 FONTS:** Down load more fonts to your 24 pin printer. This program is compatible with most 24 pin printers.

**LPD-057 KIDDIES CLIP ART:** Lots of good quality clip art designed with children in mind. Can be used in your favourite graphics package.

**LPD-065 POWER PLANNER & DIARY CHECKER:** A database in which you can store telephone numbers and addresses etc also a diary to help keep track of appointments.

**LPD-067 CYADONIA (CYAD II):** The follow up to Cyad with improved graphics and even more devious puzzles, very addictive.

### POLLYSOFT LICENSEWARE £3.00 PER DISK INCLUSIVE

**PS-001 SPACE BLOB:** Multi Level game where you collect all the glowing items but avoid the beasties like the plague.

**PS-003 Q-BOID:** A nice variation on the tetris theme, good fun and very addictive.

**PS-005 SUBCULTURE:** A shoot em up similar to R-Type with extra large creatures at the end of each level.

**PS-007 DIZZY LIZZY'S DASH:** A boulder dash type game with large graphics.

**PS-008 DIZZY LIZZY'S EDUCATIONAL 1:** Four games to make learning fun.

**PS-009 DIZZY LIZZY'S EDUCATIONAL 2:** Three games to continue the theme that learning can be fun.

**PS-011 TRON:** A two player variation of the light cycles game.

**PS-013 BOUNTY BOBS HIGH NOON:** Playing the part of Lucky Luke you have to capture 20 bad guys dead or alive. 1 meg.

**PS-014 CLASSROOM MATHS:** A selection of Mathematical games so your kids can learn and play at the same time.

**PS-015 CRYSTAL CAVERNS:** A follow up to space blob with more levels and oh no more monsters.

**FLETCHER FONTS DISKS**
**each disk is full of various fonts ideal for a paint program or video titling, only £15 per pack inc.**

**FF-P1** Fletcher Colour Pack (1) 6 disks
**FF-P2** Fletcher Colour Pack (2) 6 disks
**FF-P3** Fletcher Colour Pack (3) 6 disks
**FF-P4** Fletcher Colour Pack (4) 6 disks
**FF-PA** Fletcher Mono Pack (1) 6 disks
**FF-PB** Fletcher Mono Pack (2) 6 disks

**ALL DISKS LISTED IN THIS COLUMN ARE 500 & 500+ COMPATIBLE**

**GA-001 STAR TREK:** 2 disks a very popular game with good sounds and graphics.

**GA-006 RETURN TO EARTH:** A nice space trading game very similar to Elite.

**GA-033 CASTLE OF DOOM:** An adventure game with graphics.

**GA-034 COLOSSAL & WORLD:** 2 text adventures on one disk.

**GA-035 GAMES 1:** Slot Cars, AmiGo, Sea Haven & Sensopro.

**GA-036 GAMES 2:** Amigoids, Amoeba, Paccer, Accordian & Girl Actions.

**GA-037 GAMES 3:** Trek Trivia II, Chess, Reversi & Paranoids.

**GA-038 GAMES 4:** Monopoly, Five in a Line & Labyrinth.

**GA-039 GAMES 5:** Sorry, Retaliator & Pacman 87.

**GA-044 GAMES 6:** Marble Slide, Lore Of Conquest & Head Games.

**GA-045 GAMES 7:** Down Hill, Hollywood & Master Mind.

**GA-046 GAMES 8:** Trek Trivia III, Space War & Tron.

**GA-047 GAMES 9:** Tricky, Drive Wars & 3D Tic Tac Toe.

**GA-048 GAMES 10:** Puzz, Imperium Romanum, Sys & Mini Blast.

**GA-050 GAMES 12:** Snake Pit, China Challenge & Rubic.

**GA-052 GAMES 14:** Black Jack Lab & Moon Base.

**GA-055 GAMES 15:** Back Gammon, Push Over, Puzzle Pro & Egyptian Run.

**GA-059 GAMES 16:** Drip & Roll On.

**GA-063 GAMES 19:** Air Ace II, Triangle, Mosaic & Word Puzzle.

**GA-086 DYNAMITE DICK:** Collect the gold, be careful with the dynamite, get the key, watch that bat.

**GA-087 ZEUS:** An addictive puzzle game that gets harder and harder.

**GA-091 ROLLERPEDE & MEGABALL:** 2 very good games worth having in any collection.

**GA-092 DESTINATION MOONBASE:** A Lunar lander type game with good graphics and sound effects.

**GA-094 MORIA V3.0:** A very popular role playing game.

**GA-105 ELECTRIC TRAIN:** Build and run an electric train set.

**GA-111 RAID:** A shoot em up that requires good reflexes.

**GA-112 DITRIS:** A two player Tetris type game and just as addictive!

**GA-115 SERENE:** A two player shoot em up, collect weapons while trying to avoid obstacles and get a clear shot at your opponent.

**GA-126 CARD SHARP:** A professionally presented compendium of solitaire type card games.

**ALL CHEQUES, BANKERS ORDERS PAYABLE IN POUNDS STERLING TO:**

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**2 DISK CATALOGUE £2.00 or £1.00 WITH ORDER**

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| 1-4 Disks | £2.00 per Disk |
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Silica presents some great offers on the award winning range of high quality matrix printers from Citizen. Each Citizen printer is built in the UK to exacting standards, ensuring superb reliability and output. Our confidence in Citizen's quality is such that we are pleased to include a 2 year guarantee with every printer. Plus, if you buy a Citizen printer from us, we will give you the Silica Systems Printer Starter Kit (worth £29.38), *FREE OF CHARGE!*

**FREE DELIVERY**
Next Day - Anywhere in the UK mainland

**FREE STARTER KIT**
Worth £29.38 - With every Citizen printer from Silica.

**2 YEAR WARRANTY**
Silica offer a 2 year warranty (including the printer head) with every Citizen printer from Silica.

**WINDOWS 3.0**
Free Windows 3.0 driver. Included with the Silica Starter Kit.

**FREE COLOUR KIT**
With every Swift 9 and Swift 24e printer.

**FREE HELPLINE**
Technical support helpline open during office hours.

**MADE IN THE UK**
Citizen printers are manufactured to high standards.

**NEW! LOW PRICE**




## 9 PIN PRINTER

**144** CPS **80** COLUMN

- *Citizen 120D+ - 9 pin - 80 column*
- *144cps Draft, 30cps NLQ*
- *4K Printer Buffer + 2 Fonts*
- *Parallel Interface as Standard*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *Pull tractor & bottom feed*
- *FREE Silica Printer Starter Kit*

RRP: £199
STARTER KIT £25
TOTAL RRP: £224
SAVING: £109
SILICA PRICE: £115

**SERIAL INTERFACE OPTION**
The 120D printer is available with a serial interface for £115+VAT. Ref: PRI 2125 - £135.13 inc VAT.

**£115**
+VAT=£135.13 ref: PRI 2120

## 9 PIN PRINTERS

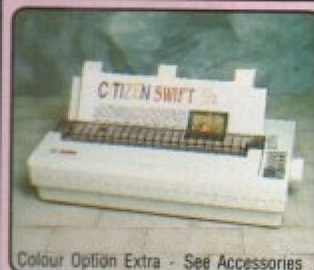



**192** CPS **80** COLUMN

- *Citizen Swift 9 - 9 pin - 80 column*
- *192cps Draft, 48cps NLQ*
- *8K Printer Buffer + 3 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

RRP: £239
COLOUR KIT £38
STARTER KIT £25
TOTAL RRP: £302
SAVING: £123
SILICA PRICE: £179

**£179**
+VAT=£222.08 ref: PRI 2209




Colour Option Extra - See Accessories

**192** CPS **136** COLUMN

- *Citizen Swift 9x - 9 pin - 136 column*
- *192cps Draft, 48cps NLQ*
- *8K Printer Buffer + 3 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *A3 landscape printing*
- *FREE Silica Printer Starter Kit*

RRP: £329
STARTER KIT £25
TOTAL RRP: £354
SAVING: £105
SILICA PRICE: £249

**£249**
+VAT=£292.58 ref: PRI 2309

## 24 PIN PRINTERS

**NEW!**




**216** CPS **80** COLUMN

- *Citizen Swift 24e - 24 pin - 80 column*
- *216cps Draft, 72cps LQ*
- *8K Printer Buffer + 6 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson, IBM & NEC P6+ Emulation*
- *FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

RRP: £365
COLOUR KIT £38
STARTER KIT £25
TOTAL RRP: £428
SAVING: £169
SILICA PRICE: £259

**£259**
+VAT=£304.33 ref: PRI 2534

**NEW!**




Colour Option Extra - See Accessories

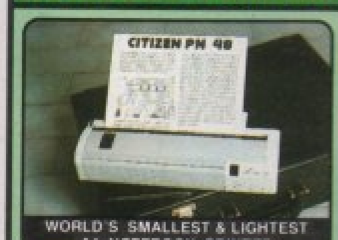
**192** CPS **80** COLUMN

- *Citizen 224 - 24 pin - 80 column*
- *192cps Draft, 64cps LQ*
- *8K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *Colour Option Available*
- *FREE Silica Printer Starter Kit*

RRP: £269
STARTER KIT £25
TOTAL RRP: £294
SAVING: £95
SILICA PRICE: £199

**£199**
+VAT=£233.83 ref: PRI 2484

## NOTEBOOK PRINTER




WORLD'S SMALLEST & LIGHTEST A4 NOTEBOOK PRINTER

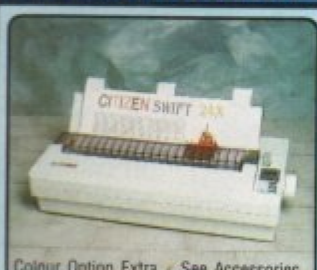
**64** CPS **80** COLUMN

- *Citizen PN48 Notebook Printer*
- *Non-impact Printing On Plain Paper*
- *LASER QUALITY - 64cps*
- *4K Printer Buffer + 2 Fonts*
- *Rear and Bottom Paper Loading*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson, IBM, NEC P6 & Citizen Emulations*
- *Power: Mains, Battery or Car Adaptor*
- *FREE Silica Printer Starter Kit*

RRP: £325
STARTER KIT £25
TOTAL RRP: £350
SAVING: £101
SILICA PRICE: £249

**£249**
+VAT=£292.58 ref: PRI 2100

## 24 PIN PRINTER




Colour Option Extra - See Accessories

**192** CPS **136** COLUMN

- *Citizen Swift 24x - 24 pin - 136 column*
- *192cps Draft, 64cps LQ*
- *8K Printer Buffer + 4 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson, IBM and NEC P6 Emulation*
- *A3 landscape printing - FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

RRP: £489
STARTER KIT £25
TOTAL RRP: £514
SAVING: £165
SILICA PRICE: £349

**£349**
+VAT=£410.08 ref: PRI 2574

## 24 PIN PRINTER

**GOLD AWARD**
*Best Budget Printer 1990*
Micro Decision

**144** CPS
**80** COLUMN

- *Citizen 124D - 24 pin - 80 col*
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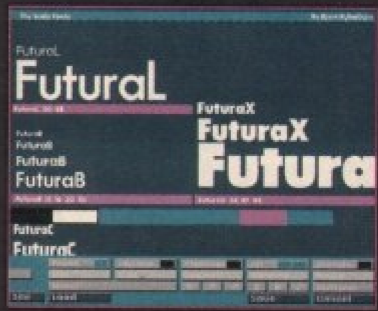
*AC Classifieds* are completely **free** if your ad is between 1 and 15 words. If you need more space the rates are still excellent value. Adverts between 16 and 25 words will cost you £4, while the maximum 16-35 word band comes in at the special reduced rate of only £6.

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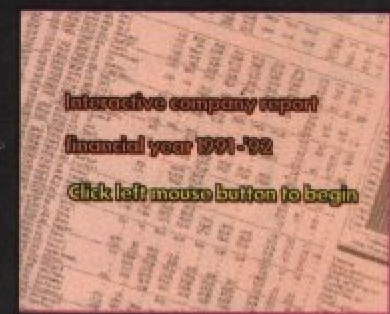
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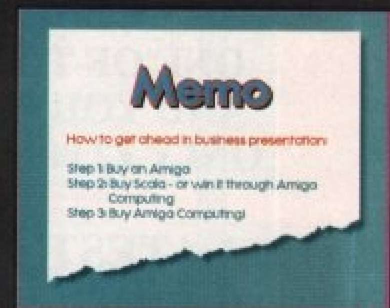



# Multimedia multi-prize madness!

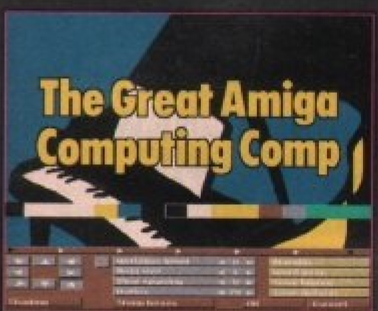


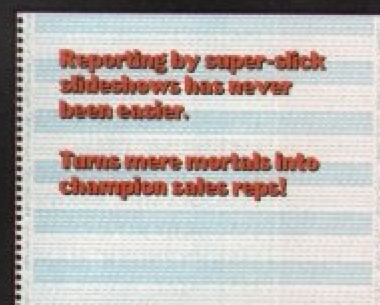







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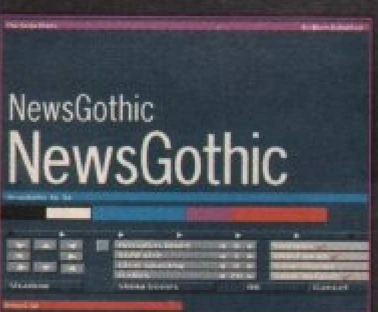
Don't worry if you have a standard A500, because we've got two copies of the £100 Scala 500 to give away as well. This cut-down version of the Scala package has been optimised specially to work on machines with limited memory without having to offer limited features.

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Now all Amiga owners can have the chance to become expert sellers and presenters of ideas. For the businessman, Scala is the perfect solution to those jaded end-of-year reports and tired-looking OHP slides. For the home user, Scala offers the best possible slideshow and graphics presentation package.

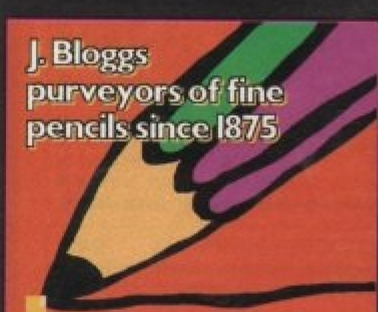
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Post this form to:

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# Speaking in tongues

**Paul Austin bins his unfriendly phrase book and moves on to Audio Gallery, the Amiga's very own language tutor**




*Simply select a particular point of interest and sit back as the Amiga the mysteries of a foreign language*

A truly original idea is a rare thing on the Amiga. Every possible base appears to be covered with countless applications all offering their own special answers to every conceivable computing question.

Having said that, FairBrother Inc in the US have apparently achieved the impossible by releasing a package that stands alone in the market, offering the answer to a question that's hitherto been ignored.

As you may have guessed, this mystery skill is the mastering of a foreign language. If you happen to be in the market for some tuition, Audio Gallery could be the perfect solution, or at least part of it.

The software is designed to provide a complete library of everyday words in a whole range of languages. At present German, Spanish, Japanese and Chinese are on offer with Portuguese, Korean, French, Russian and Italian to follow shortly.

The program starts by offering you a selection of 20 categories, covering all manner of potential environments and situations. Once you've selected your particular area of interest – via the mouse – the opening screen is replaced with a suitable graphic depicting an everyday scene related to your choice complete with the relevant numbered objects.

## Phonetic

To examine a particular item simply click on its number. A phonetic English pronunciation appears plus its equivalent in the chosen tongue. There's also the option to see the word in standard written English, but perhaps most important is the program's audio features.

As each object is selected, a sample recorded by a native speaker plays to accompany the text. This alone will be enough to secure success. After all, as I'm sure you'll agree, pronunciation is by far the most important aspect of mastering any language.

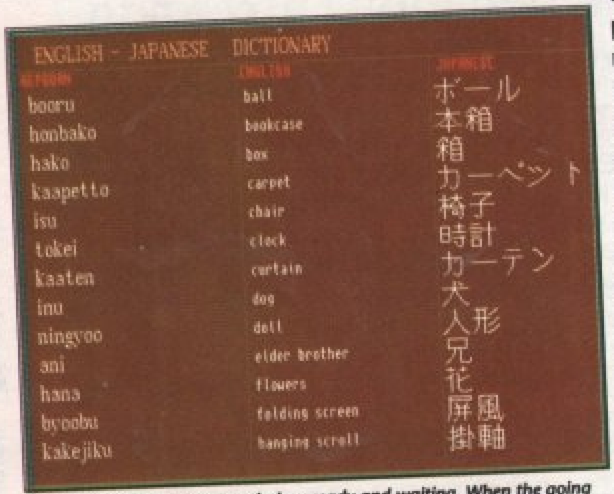
If you want a second hearing the selected phase can be repeated as often as you like, or if you'd prefer old style tuition the program can automatically cycle through its entire repertoire displaying the text and playing the samples in turn as it trundles through the available words.The word rate and delay between each can be defined to fit your particular taste and talent and there's a separate option to repeat any words you're having particular trouble with. To fine tune your newly acquired skills, another option lurks on the menu bar, namely Audio Gallery's very own version of Trivial Pursuit.

This particular version of the coffee-table classic takes the form of a simple multiple choice question that offers four potential answers to the question posed.

The questions and answers section can use any combination of the three available display formats. For example, in Japanese you could be given the question written in the brush strokes and symbols of classical Japanese literature while the answers appear in Hepburn or phonetic English. Just about any combination of questions and answers is possible and of course the samples still play their part in the action.

A fuel gauge displays a running total of your performance and at the end of the quiz your percentage appears to add the final insult to your already damaged pride.

The third and final option is to consult the built-in dictionary for the definitive list of available words. Like all other screens, the dictionary provides the English, Hepburn (or phonetic), and of course the ethnic equivalent. With the picture and quiz sections it may seem that a dictionary is a rather pointless addition, but I'm sure most users will find it particularly handy, primarily because it's the only area of the program that allows you to linger on a particular word. This is particularly useful if you're trying to remember languages that appear as pictograms such as Japanese, Chinese, Korean and so on.




*The program's complete vocabulary ready and waiting. When the going gets tough, the intelligent cheat...*

Like all the available screens the dictionary has its very own section of pull-downs, almost entirely dedicated to navigating around the listed words via straightforward page and half page jumps, or alternatively you can move directly to the area of interest by selecting words within a certain range, for example W through to Z.




*Not particularly inspiring graphics but as a learning tool it's excellent. Trivial pursuits for the potentially bilingual*

Although Audio Gallery does appear to be the perfect solution to the problem of learning another language, there is one fundamental flaw that can't be explained away no matter how impressive the program's pronunciation and friendly point and click interface.

Grammar is its Achilles' heel, and the program's only real fault – if you don't mind the less-than-impressive graphics. For example, such everyday conversations as, "Your aardvark has eaten my banana, so you'll find your dinner in the dog, chummy..." would become "Aardvark banana dinner dog food" or something equally as silly.

Obviously Audio Gallery has some very strong points but real world conversation certainly isn't one of them. In conjunction with some other form of tutorial it's bound to be an invaluable aid. As a standalone tuition system there are a few problems.

All in all it's a good package and ideal for the teaching children or perhaps conveying the basic essentials to the would-be world traveller. If later versions of the program can address the grammar problem it could become the perfect learning tool for all ages.

Unfortunately the program doesn't yet have a UK supplier, so if you're interested I'm afraid you'll have to deal direct with the US supplier. AC

For more details contact:
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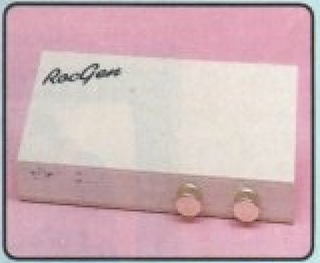
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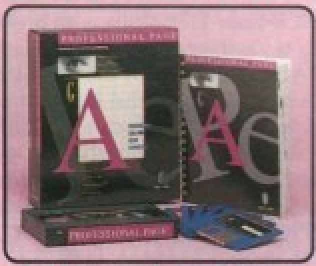
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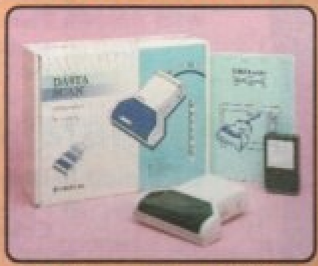
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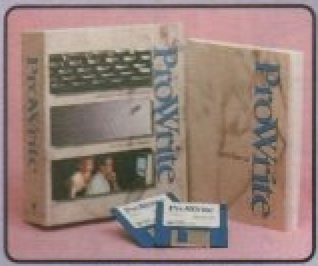
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# Amiga Computing Advice Service ACAS

## Radio station

My Amiga 500 is beginning to look a bit ugly with all the bolt-on bits hanging off it, so I intend to build it into a new case of my own design. I should then have bags of room to put all the goodies in, which leads to my question.

I have an A590 hard disk with 2Mb of memory and I believe I can attach another drive to this. What sort should I use and how do I go about connecting it?

Secondly, I'm going to be using my Amiga for amateur radio purposes, so I'll need to have it switched on continuously. Is it OK to do this? Would it shorten the hard drive's life span or damage the PSU?

Finally, I've seen Flight Simulator 4 running on a 50MHz 486 PC and it is excellent, far better than on a bog standard A500. Can the Amiga, with accelerators, perform as well as this?

*Dave Walker, East Grinstead*

**For an answer to your first question, I refer you to last month's ACAS column and my reply to the first letter.**

**There are a few things you'll have to bear in mind for your second project. If you re-case the Amiga and intend to force more peripherals into close proximity with each other, you'll have to ensure you buy a new power supply and fit some sort of internal cooling fan.**

**You may be thinking of putting the Amiga into a PC-style tower case, in which case you should be able to purchase one with a 200W PSU and cooling fan already fitted. All you'll have to do then is check that the PSU is of the correct rating and rig up a connection to your A500 power socket.**

**In a situation where the machine is expected to remain switched on for hours on end, a surge protector and uninterruptible power supply would be a good idea, but other than the risk from erratic electricity, there should be no penalty for long-term heavy usage. The A590 should be fine in continuous operation, as should the A500.**

**Your last question leads me to believe you didn't read our reviews of the 68040 boards a couple of months ago. This new type of accelerator board will enable the Amiga to outperform even the 80486-based PCs. I don't know about FS4, but M1 Tank Platoon plays like a racing car game on an 040!**

## Basic mistake

I have recently upgraded from a 1.2 A500 to the new A500 Plus. Why have Commodore not really supported a language on the A500 Plus? It no longer comes supplied with AmigaBASIC, even though the Plus will happily run AmigaBASIC.

Commodore have put ARexx in ROM with the rexxsupport.library in LIBS:, the rexxc directory with nine ARexx programs, and RexxMast in the system directory yet nothing is given in the manual about ARexx! I've never even seen an ARexx program let alone written one, so where's the support?

I feel very strongly about this and feel Commodore have let us down.

*Douglas Griffiths, Lincoln*

**You're not the only one to have spotted the dearth of decent ARexx support from Commodore. The A3000, which was the first machine supplied with both Workbench 2 and ARexx, has a manual you could prop open a fire door with, containing a fairly informative section on ARexx. The A500 Plus, however, has nothing.**

**The idea, presumably, is that you go out and buy an official Commodore ARexx manual, but more likely is the fact that ARexx on the A500 Plus is more of a consequence of Workbench 2.04 than Commodore's attitude to the machine as a serious tool.**

**Don't despair! Now that ARexx is finally becoming recognised for what it is, there'll be a great deal more support from third-party publishers. You could do worse than check out the new ARexx beginners' column starting in this month's Almanac section!**

## Printer out of puff? Computer cracking up? We're here to help!

Write to ACAS, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP

*Save your saes please – we can't reply personally*

## Very silly person

I'm the kind of person who enjoys ripping my Amiga apart and adding bits to it. Recently I took the four RAM chips (0.5Mb) from my 1.5Mb expansion board and soldered them into the four spaces available on my Amiga's motherboard. I now have a few problems (Do tell! – Ed).

First, when the 1.5Mb board's Gary adaptor is plugged in, the computer thinks it has 2Mb of chip RAM instead of 1Mb, and promptly tries to put data into non-existent memory, leading to crashes and Gurus. Would this be solved if I bought another 1Mb of RAM for the expansion board?

Even when the Gary adaptor is unplugged and the Amiga configures to the right amount of memory it still crashes. Would this be caused by the fact that I didn't put any solder on the top of

➤

## Dodgy chips

I have a Kickstart 1.3 A500 with a Power Computing PC502 1.5Mb RAM board and a GVP Impact Series II A500HD+ hard drive. My problem is that I am trying to install 4 x 1Mb SIMM modules to the hard drive. I have the correct jumper settings, but all I get on power up is a grey screen and flashing power light on the Amiga.

The SIMMs are a nine chip Japanese make (MB85235-80). Is this the problem? Please help, as I need some sleep.

*M I Alden*

**You've probably put your finger on the problem already. The SIMMs you describe are certainly different from the eight chip Texas Instruments chips supplied with every GVP hard drive and expansion board in our office, so they may be failing to configure, which is where the grey screen comes in.**

**Try contacting a GVP supplier such as Silica Systems (081-309 1111), where you should be able to purchase the correct SIMM modules.**

**The problem definitely doesn't lie with the GVP/Power Computing expansion board combination, as I've tried my own GVP A500HD+ with 2Mb of RAM in conjunction with a Power Computing 1.5Mb card and they worked perfectly together.**

the PCB and the chips aren't making a proper contact with it? Any help would be appreciated.

*Barry Alcock, Ipswich*

**Step one: take a large wet fish and slap yourself several times about the face until you've come to your senses! Step two: reverse every step you've taken until the Amiga's motherboard is restored to its original condition.**

**There is absolutely no point in soldering chips to the empty spaces on the revision 6.2 motherboards as you'll succeed only in rendering the trapdoor expansion slot useless for the purposes of memory expansion. Commodore's engineers faint at the mere mention of such a procedure.**

**If you have a 1.5Mb expansion board, and it's not the type offering 1Mb of chip RAM on the soldering of a link from Gary to JP2, you'll either have to stick with 0.5Mb of chip RAM or buy a 1.5Mb board that does, such as the Power Computing board.**

## More keyboards

Locked keyboards on A500s must be fairly common, if January's ACAS is anything to go by. I too experienced the problem with the flashing caps lock a year ago, but luckily my machine was still inside its warranty period.

The puzzling thing was that when FMG fully inspected it they found no faults with it at all, and when it was returned, the trouble had gone completely. This led me to believe that there was a temporary fault in a chip and somehow the power in the chip was not drained off.

The second conclusion was that the keyboard wires were slightly loose, which is more probable. My advice would be to leave it untouched for a week in a dust-free environment before forking out £50 for a repair.

*Y H Au, Stratford*

**For those still inside their warranty period, the best advice is to send a sick Amiga to be repaired the minute anything goes wrong. If purchased from a local computer shop, you might even be able to swap it for a new Amiga, so don't leave injured Amigas in broom cupboards just in case they get better again.**

**On the other hand, it's true that there are far too many Amigas experiencing the caps lock/frozen keyboard problem, and the keyboard connector might well be to blame. It's a none too tight little connector, and could quite easily become loose in transit when the Amiga is initially shipped.**

**For those with Amigas outside the warranty period, the best course of action would be to open the machine and ensure that all connectors are in place before resorting to an expensive repair. You never know, it might save you money.**

## Pin problem

Can you help with any of the following problems?

- Where can I get hold of the 100-way edge connectors as used for A2000 peripherals? I've tried RadioSpares, CPC, Maplin, and Cirkit without success. The best I can do is a 98-pin connector from Maplin.
- Will the CSA Mega-Midget Racer accelerator work with an A500 Plus or are there some modifications necessary? The supplier of my accelerator went out of business recently so your help would be appreciated.
- Is the A500 Plus's expansion bus pin-for-pin compatible with the old A500's?
- Why has nobody ever written about Steve Koren's excellent PD shell "sksh" on Fish disk 381? It is required software for anybody who uses the Amiga for development and an absolute godsend for people from a Unix background. I've used it for a couple of years now and apart from a few minor problems, its power, consistency and flexibility knock CLI into a cocked hat. My only grouse is that I've been unable to contact Steve in the US to get an update and sort out some snags.

*Bob Balderson, Uckfield*

**I don't know of a supplier of 100-way edge connectors, I'm afraid. The PC-style 98-way boards are about as close as you'll get, and should be perfectly adequate except for the occasional need to take a soldering iron out and botch job the last two connectors.**

**The Midget Racer should be fine in an electronic sense. Where you may find problems is with the capacitor we pinpointed in our A500 Plus article the other month. Component C307 is 4.5mm taller than before, and will prevent some boards from properly seating themselves in the 68000 socket. The Microbotics VXL-30 suffers from this problem, and I would imagine the Midget Racer does too.**

**Unless you feel up to replacing the capacitor with another physically smaller but electronically identical component, you'll have to try adding a chip socket between the board and the 68000 socket to build it up over the top of C307. This will work as long as the edge of the board doesn't then clash with the keyboard.**

**The expansion bus on the A500 Plus is identical to the old A500, so any peripherals such as hard drives and RAM expansion boxes will continue to function on the new machine.**

**As for nobody having mentioned Steve Koren's excellent program, you just did. If you can't contact him at the address supplied in his own documents, try PeopleLink, BIX, or CompuServe. Many US and Canadian developers can be contacted on one of these popular BBSs.**

## Omega Amiga?

My problem is a simple one, I hope. I am currently attending an electrical installation course and wish to write all my notes on the Amiga. I am using ProWrite 3.1 and wish to have a font (Topaz 8 or 9) which has all the Greek letters used in science, such as omega, rho, micro, and so on.

Where, please, can I find such a font? I've tried the Fed font editor, but it's a real pain designing all the letters individually.

*Silvio Abela, Malta*

**The font you need is Symbol, and it is available on many PD disks. Most libraries will have a selection of fonts disks, and if you check with them there will be one containing Symbol. Try Softville PD on (+44) 705 266509.**

## Wrong voltage

I have an Amiga 1000 and I would like to link my computer to my Yamaha portable keyboard. Recently, I purchased a Midi interface called the Midi Connector from The Disc Company. Their local marketing agent is HB Marketing in Slough. This Midi interface is intended for the A500, but I was hoping to be able to use it for the A1000.

The problem I am having involves the serial port connection. The Midi connector plugs in to the A1000's 25-pin serial socket and uses the following five pins:

| | |
|---|---|
| 2 | *TXD Transmitted data (Midi OUT)* |
| 3 | *RXD Received data (Midi IN)* |
| 7 | *GND Signal ground* |
| 9 | *+12V +12V power* |
| 10 | *-12V -12V power* |

The output from the A1000 end of the serial port is correct for pins two, three, and seven, but pins nine and ten aren't used. There is a +12V supply at pin 23, but the -12V supply is missing as far as I can see.

Therefore, except for the -12V supply at pin ten, I should be able to make a connector fairly easily. The A1000 serial port supplies +5V via pin 21 and -5V via pin 14. Can I connect pin 21 to pin 9, and pin 14 to pin 10? In other words, use 5V instead of 12V. Will this work?

*J Gan*

**We didn't have room to print all of your letter, but I can tell you that to resort to voltage boosters and inverters would make the whole project more expensive than buying an A100-specific Midi interface.**

**I don't see why the suggested connections between pins 21-9 and 14-10 shouldn't work – as long as your Midi interface will operate on 5V, which is something you'll only know if you try. The A1000's serial port is annoyingly non-standard, unlike the A500's RS232 port, and bolting extra hardware to it in order to make it act like one is asking for trouble.**

## Canon again...

I am hoping to obtain a printer soon, and as I will be using it for business correspondence, I have considered the Canon BJ-10e (I can't afford a laser printer). This, apparently, emulates the IBM X24 and Canon BJ-130e.

The extras disk and manual say that the BJ-10e is supported with "Control Capsule 48/XL". Does this mean I would have to obtain this whatever-it-is in order to use the printer, or is it included in the printer itself?

*Adrian Smith, Cowley*

**The printer world has advanced somewhat since the extras disk was first put together. The BJ-10e is becoming one of the most popular of the not-quite-wallet-annihilating printers and users now have a couple of options open to them. There's a shareware printer driver available from any PD library which supports Fred Fish disks, and some programs now support the printer directly.**

**I'd recommend you go for the shareware driver unless you are also considering a new wordprocessor, in which case you should buy Wordworth 1.1 from Digita. This excellent program has its own BJ-10e printer driver and enables the selection of any of the printer's built-in fonts through the wordprocessor without having to mess about with printer codes.**

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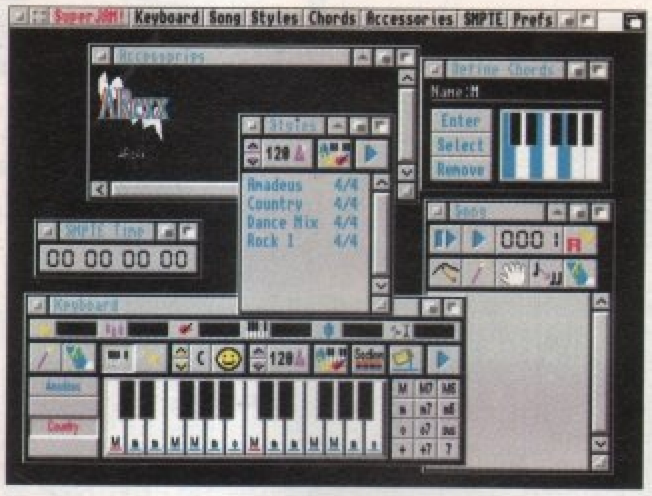
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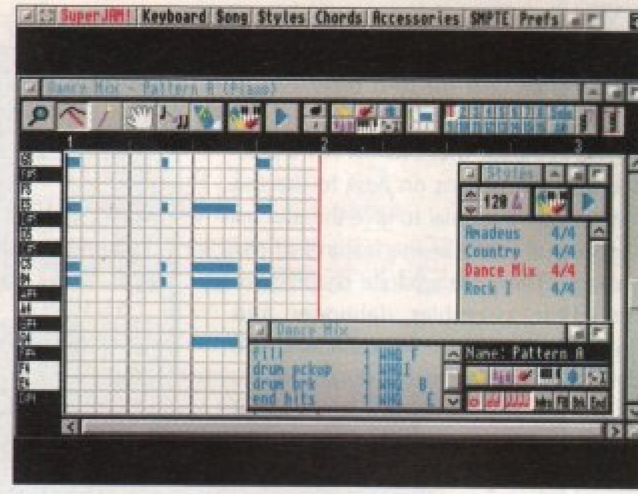
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Access



Edit two programs at once, and take advantage of cut and paste



Some of Devpac 3's many enviroament options

# Programmer's paradise

**HiSoft's world-beating Devpac assembler is now better than ever. Margaret Stanger took it through its paces**

It seemed like Christmas all over again when *Amiga Computing* asked me to try out HiSoft Devpac v3.01. This complete package for assembly language programmers contains an editor, assembler, monitor, linker and a book of clear instructions on how to use these goodies.

Source code is created and tweaked with the editor, Devpac, and turned into machine code by the assembler, GenAm. The linker BLink connects your object files to each other, and to the outside world. The monitor, MonAm, can take a lot of the time-consuming guesswork out of debugging assembly language programs.

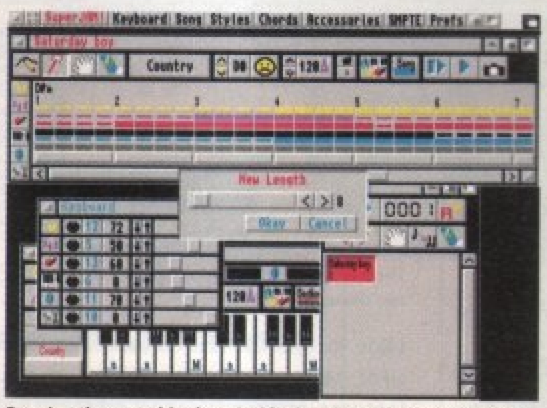
For £69.95 you get a four disks in a plastic wallet, a user's manual, a 68000 pocket reference guide, a sturdy cardboard box, and thirty days of free technical support. HiSoft have produced separate versions of Devpac for the 1.3 and 2.0 Amiga operating systems enabling A3000 or A500P owners to take full advantage of the capabilities of their computers.

## What you get

Each version has a cut-down, bootable Workbench disk, or program disk, and an include disk containing operating system include files and libraries. The 1.3 program disk contains the Devpac, GenAm and MonAm tools in the Devpac drawer. Icons which run the assembler and debugger from Workbench via IconX are also provided.

The 1.3 includes disk contains the ARP library documentation and standard Commodore startup code (for Workbench 1.3 or 2.0). The tools directory contains BLink, Fd2Lvo (to convert fd files into include files ) and SRSplit for EPROM programmers.

The 2.0 program disk is similar to the 1.3 program disk except that BLink appears in the Devpac drawer. The file selector from the standard asl.library is used rather than the arp.library. The 2.0 includes disk has all Workbench 2 assembly include files, FD files and linkable libraries. The editor Devpac is also the control module, and it allows you to develop programs interactively. Editing can take place in the same environment as running and debugging the program.



Running the assembler from inside the editor saves a lot of time

The Intuition-based editor allows you to access its features using windows, menus and mice or fast keyboard shortcuts. I appreciated the multiple file editing, with cutting and pasting between different source files. The file requester facility is very useful, as is the option to define and use Macros.

GenAm is a 68000/68040/68881 assembler available from within the editor or as a standalone program. It can convert the current source code into either a file for immediate execution or for linking with other files. Linkable code can be used with other similar modules or with output from a high level compiled language.

Alternatively, Motorola S-records can be produced for downloading to an EPROM programmer. The Control item on the settings menu is used to set the type of object file required, the Options item allows you to choose the processor and some source checking options, and the optimisation requester allows you to choose the level of optimisation.

## Symbolic

MomAm is a powerful symbolic debugger and disassembler which lets you examine programs and memory, execute programs and instruction at a time and trap program errors. The display consists of a number of windows through which you can view the registers, a disassembly of the program, the program's source code or a portion of memory.

The current window has its title highlighted – you can choose what you want to display in this window, or easily choose another window to be active. Executable programs can be loaded, breakpoints set or changed, addresses set, and a program can single step, trace ➤

## Editor and assembler features

The file selector from the arp.library was very helpful, especially if you could not quite remember which source code files were on a particular disk. It is possible to read through the list of available files without leaving the Devpac environment.

If a programmer is desperate for disk space, and the arp.library falls victim, the requester is replaced by a simpler file requester. This default file requester gives you everything except the list of files available, and has editing facilities. The multiple file editing facility is very useful, as it allows a programmer to copy chunks of source code from one program to another with the cut and paste facility.

The search/replace requester is excellent. It is particularly helpful with source code errors. The package returns from an unsuccessful assembly at the first incorrect line of source code. When this has been corrected, the search/replace facility can be used to skip to the next offending line (I had to deliberately put a few errors in my code to test this).

There was an Execute option in the program menu which I found very useful. If I put BLink in the C: directory of the system disk, I could enter the linker instructions on this line for multi-module assembly. Not only was it unnecessary to leave the Devpac environment, but the linker command stayed in the buffer for the next run.

The assembler has more than one type of binary file output – executable files, linkable files and S-records. Executable files provide a reduced development time, and are ideal for programs where the source code is contained in one module. Linkable files are ideal for multi-module development, or for linking to high level language modules. Motorola S-records produce absolute code directly. They are intended for EPROMS and cannot run on the Amiga as they stand.

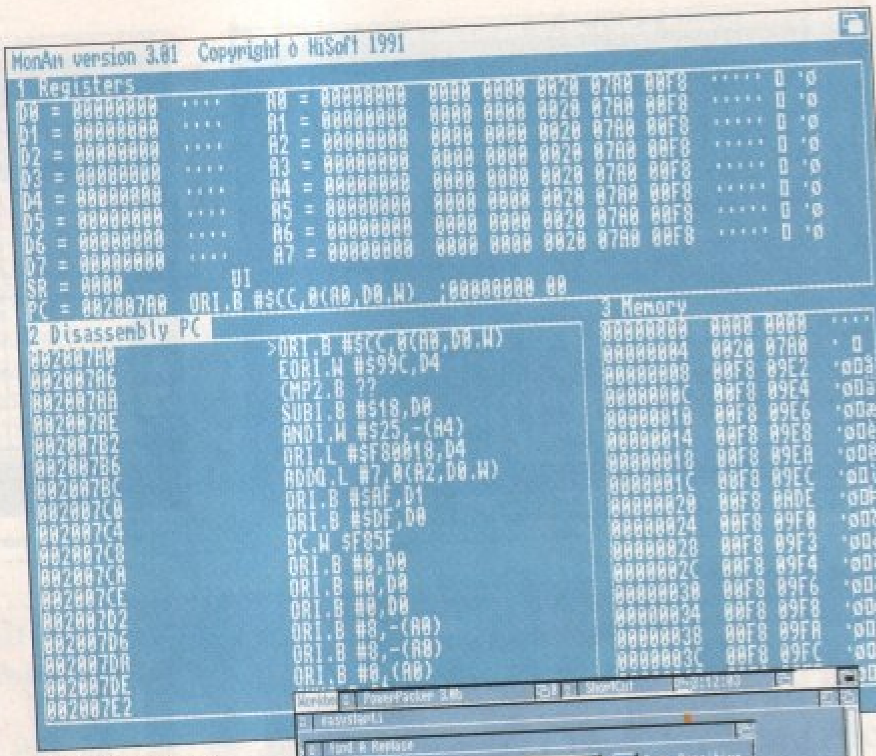
It is possible to set the amount of source code error checking that the assembler is required to do, and warnings can be suppressed. Any errors found are well highlighted, and details are passed to the editor's Find Error facility. Code can be optimised as much or as little as required – programs that are not time critical can be left well alone, while those that need to run quickly can have all the stops pulled out.

instruction, skip instruction or return to the program until the next breakpoint is reached.

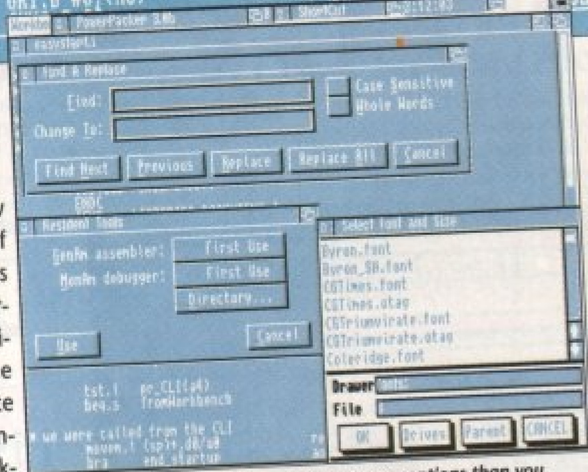
The 270-page user manual has a preface with instructions on how to use the manual and a tutorial to give the user an overview of many of the features of the package. There are separate chapters for the editor, assembler, debugger, and linker, each with an introduction, full details and quick reference summaries.

There is documentation on the other include tools, and a list of AmigaDOS error codes and GenAm error messages. Other appendices include system calls, use of the CLI, and the floating point co-processor.

HiSoft include an assembly language pocket programming guide in their package. While it is an excellent idea to include this item, it only contains 68000 and 68010 instructions. The print is very small and difficult to read – especially in artificial light in the early hours of the morning when many programmers are active.




*The MonAm debugger in all its glory*




*There really are more options than you can shake a stick at*

## New features

The package has had many new features added since the previous version was released. All icons, requesters and gadgets have a Workbench 2.0 look and feel, even under 1.3. A separate 2.0 version is supplied to take advantage of the new operating system, in addition to the 1.3 version.

The monitor and assembler fully support all the 68000 to 68040 and 68332 processors, the 68881/2 maths co-processor and the 68851 MMU. The editor now has multi-file editing with bookmarks, clipboard cut and paste, pop-up option menus and the fastest search and replace I have ever seen.

Unlimited windows can now be opened on the same source, and a macro recording facility is now available. The range of assembly options has been extended and further optimisation facilities are provided. The assembler can generate and process pre-assembled include files, making assembly of programs with operating system include files much faster.

The front panel window display of the debugger is now more versatile, and new features have been added to allow for debugging multi-module programs. A new improved commercial version of BLink is supplied – it is faster with more options, and fully supports the new features of the AmigaDOS file format.

I found the package to be excellent value for money. The editor is fast, efficient, very easy to use, and has all the features of an advanced editor. The assembler is very fast, and it is easy to set the options, optimisation and have control over the type of output file.

It is an advantage to be able to use the assembler and debugger without leaving the editor environment. The debugger is very versatile and easy to use, and I could see at a glance what was happening to my program. The 270-page user manual has good, clear, unambiguous instructions – beginners are catered for as well as serious techies. Programmers get 30 days of free technical support when they register their copy, and there is an option to buy further technical support after the 30 days has elapsed.

There have been many enhancements to the editor, assembler and debugger. They are all faster and easier to use than the 2.14 and 2.15 versions, and the assembler and monitor now fully support all the 68000 processor family instructions. AC

**Devpac 3 – £69.95 (or £34.95 if you trade in your Devpac 2 disks)**
**Available from HiSoft, The Old School, Greenfield, BEDFORD MK45 5DE**
**Tel: 0525 718181**

## Monitor features

There are four different types of view through a window. The register window shows the address and data registers, their contents, the program counter, the status register and the current instruction. The disassembly register shows a disassembly of the memory that it is addressing. The memory window shows the contents of the current memory in hexadecimal and Ascii, and the source code window can show the text file source code of the program under scrutiny.

The current window has its title highlighted, and is the active window on which any operation will take place. Any other window can be made into the current window very easily. Executable files can be loaded very easily. MonAm puts a breakpoint at the first instruction (a breakpoint is an instruction to stop the program running and enter MonAm).

Breakpoints can be easily set anywhere in the program, a programmer can run his program through any boring bits (that work) and it will stop at the breakpoint. The register contents at this point are displayed, and the memory window can be used to examine any memory locations likely to be affected by the next bit of code. It is then possible to single step through the offending code, keeping a close watch on all its activities.

MonAm uses the processor exceptions to stop programs and single step when an exception occurs. This exception could be an illegal instruction, or an address error or several other events. MonAm can save development time by trapping these errors before the offending instructions are carried out.

## The errors are intentional!

The user manual preface contains a quick tutorial to demonstrate some of the features of the package. One of the source code files from the examples has two deliberate errors and demonstrates the error checking facilities of the assembler and the debugger, and their interaction with the editor.

Once the source code is loaded in some of the editing features can be demonstrated. By selecting Check from the program menu, the assembler is invoked. The source code has two errors, one to be detected by the assembler, and one to be detected by the debugger.

When an error is reported by the assembler, pressing any key returns control to the editor, placing the cursor on the offending line, and displaying the error message. When the error is corrected, and the program assembled correctly, the debugger can be used to monitor the program's progress.

If the program is allowed to run in the debugger environment, an address error will be reported, as the program attempts to access an odd address with a move.l instruction.

The manual also has a useful appendix giving full instructions on converting source code from other assemblers to run with Devpac. ArgAsm only needs to have a supplied macro file included. Some of the Assempro directives are not supported directly, and the syntax for the macro parameters is slightly different – equivalent directives are given.

K-Seka directives and labels may need some alteration. Slight changes are required to Metacomco source files, mainly the external references to the library routines.

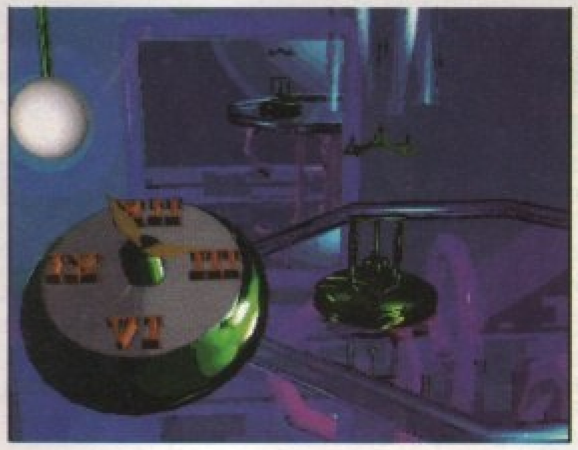
Generally, the user manual is well laid out with creative use of white space and different type styles and fonts. Everything is described clearly, with good use of illustrations.

The quick reference sections at the end of the main chapters were very helpful. I could see the available options at a glance, and their keyboard short-cut alternatives to the menu items.

There is a useful appendix to give an overview of the 68881/68882 maths co-processor's registers and formats, and a chapter with details of how to create an S-record for an EPROM, and split it if necessary.

# Artistic acumen

**If you're seriously into animation, Progressive Peripherals may have the program you've been waiting for. Paul Austin takes a look**



*A stylish example of just what Animation Station can help anyone to achieve*

Animation is in vogue at the moment, as a trip to any show or a glimpse at the average goggle box will tell you. Everywhere you look objects are hopping around their virtual worlds while computer-generated manikins sell everything from Smarties to insurance.

If, however, you're more interested in creativity than broadcast clarity, Animation Station could be Ideal. The program accepts IFF anim files and standard IFFs in any resolution or size, including Ham, either with or without overscan and interlace. Once imported, each frame is displayed in an optional storyboard ready for editing.

Any additional anim files can be imported and made to Proceed, Append or Insert anywhere within the original anim. It's even possible to remove individual frames, touch them up in a paint package and replace them in the desired spot.

## Basic features

AS's basic features allow you to employ all of the above as well as dissecting and deleting single cells or entire sections. Perhaps most important of all is the program's ability to combine anims.

When loaded you can add special effects, assign timing information and even sound effects. If your creation exceeds available RAM the program will happily load the remainder as the animation plays – no more tailoring your creations to suit your system. What bliss...

Colour palettes can be redefined over the anim. As a result it's possible to create smooth colour changes over any number of frames or make blanket changes over original colours.

Perhaps the most important of the aforementioned features is the ability to combine existing animations. The only restriction is that the various players must be in the same resolution and if different palettes are used there must be sufficient unused palette space on the parent to accommodate the colours of its other half. Given suitable palette space, the number of combinations is limitless.

The Fx icon is where the real fun starts, as it's here where all the program's designer effects reside. The first of the six gives you the option of flipping your creation by its X or Y axis, or perhaps a combination of the two. Next comes the option to scroll the animation on to the screen from above, below or either side. If you apply the option twice it's possible to create diagonal wipes – very impressive.

Thirdly comes the size control, varying from ½ to ¼. The new rescaled anim can then be placed at any position within the screen. A perfect application is to combine this feature with the Merge Anim option. With a little patience it's easy to create multiple anims all apparently running on the same screen at once.

The mosaic effect is next, allowing you to create focusing effects over a predefined number of frames. Simply select the amount of pixelisation in the first and final frames and the software works out the tween frames producing a smooth transition.

Blur control comes fifth and as the name suggests it softens the transition between frames. Unfortunately this one can only be applied to Ham images. Nevertheless, it's a useful addition that can produce impressive effects with a little experimentation.

## Offset

The final option is to offset the anim, again via the X and Y co-ordinates. It's not a thing that you'll need very often, but it's there if you want it. As with all of AS's features, there's nothing to stop you combining effects or repeating the same trick twice.

Apart from loading and compiling preprepared anims, AS allows you to create anims within anims, due to its ability to grab brushes from any frame and apply them as key frame images within the anim.

Once captured, the brush can then be pasted into a movement path over a selected frame. Again this is an automated process assisted by AS's brush movement requester.

Simply place the brush in the starting frame at the desired point and assign it as a key frame. Move to the desired frame, place the brush and define it as key once more. Now sit back and let AS do the tween frames – it couldn't be simpler.

I doubt you'll need reminding that Animation Station is an impressive product. Nevertheless it's likely that only the more serious Amiga animators will push the program to its limits.

There are a few minor irritations such as the program's apparent dislike of WB2, which by all accounts is to be rectified soon. It will work with the new WB format but it's not a totally happy marriage.

Lastly, if you're interested in getting the best from the package, a hard drive and accelerator combination is strongly recommended, as some of processes can take on almost ray tracing proportions. AC

Contact Marcam on
081 941 6117
or
Progressive on
0101 303 325 4144

## Tricks of the trade

*Second only to AS's compilation skills come the impressive range of special effects and timing talents. The first trick is the mirror option which reverses the entire anim or just selected sections.*

*This is particularly handy if you're creating a cycling anim. Now you need only render half the frames, load them into AS, add the extra frames, copy the original half and mirror the new section. An instant 50 per cent saving on production time.*

*Next comes the slightly less impressive greyscale option which automatically transforms selected frames onto – yes, you've guessed it – greyscale.*

## Sound timekeeping

*With the average anim flying by at around 25 frames a second, saving valuable memory is an essential. In this particular department AS excels by allowing you to define to within 1/60th of a second exactly how long each frame appears onscreen.*

*So if you have an anim which scrolls in a title and pauses on the final frame, huge savings can be made by simply removing all but one of the static images and defining a separate onscreen time for the final image.*

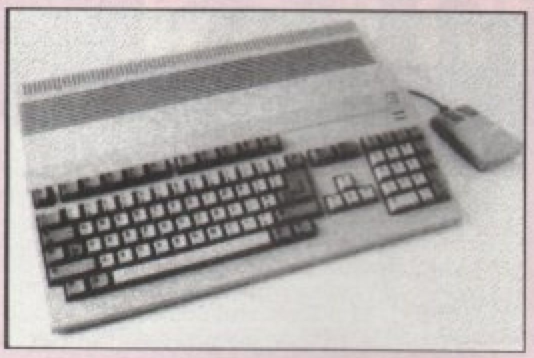
*It's possible to define an individual time for each frame in the animation, so now you're not limited to the ease-in and out of Dpaint. With the assistance of the timing requester your creations can accelerate and pause whenever and wherever you want.*

*An added bonus with the timing requester is the option to assign sounds to any frame in the anim. These can either be background or foreground sounds. The difference is that foreground sounds play once as opposed to background sounds which loop constantly.*

*Each of the four available samples can be assigned to either the left or right channel with a predefined volume for each.*

| Rating | Score (of 10) |
|---|---|
| Ease of use | 9 |
| Implementation | 8 |
| Value for money | 8 |
| Overall | 8 |

# AMIGA SOFTMACHINE AMIGA



## Commodore Hardware

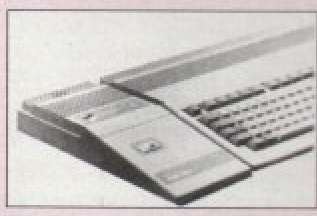
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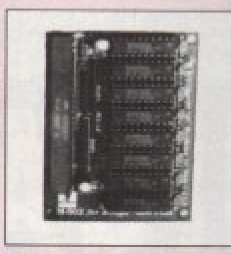
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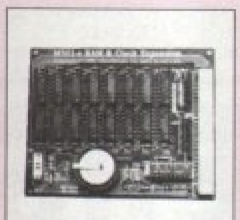
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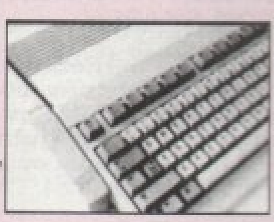


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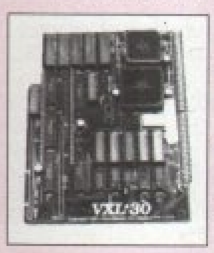
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* Requires use of external PSU :

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# AMIGA

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# AMIGA

## Accessories

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# amiga almanac



# Getting to

The release of Workbench 2.0 sees the advent of ARexx as a language for everyone. At last – a utility language for a multitasking computer! Don't be put off by its strange name, its technical origins, or its relative uniqueness. The language is easy, powerful, and geared to the 90s.

The software companies are giving it massive support – they can see its very real advantages. All the applications running on a machine can communicate with each other! After all, that's the promise of a multitasking computer, and that's what ARexx really is – a multitasking computer's "workhorse" language. It therefore has many special features, not widely seen before.

In this series we will take a guided tour through the many capabilities of ARexx, and will gradually become acquainted with the basic features of the language. After only a short time you will be able to produce extremely useful and impressive programs, that will amaze you, and everyone else too!

We will take advantage of the extreme convenience that ARexx can provide for us, including full access to screens, windows, requesters etc, and we will also study some of its more advanced capabilities. In the main part of each of these articles we will examine the language itself and its support utilities, while in the boxed section we will get acquainted with the interprocess communication abilities.

## Good interpretation

First of all let us say that ARexx is an interpreted language just like Basic. That means its instructions are read and executed line-by-line. However, unlike other interpreted languages, you don't have to load up an interpreter and be limited to its environment every time you want to run a program – a torture form familiar to users of AmigaBASIC!

The ARexx interpreter – called the resident process – need only be launched once, using the RexxMast command (the Workbench 2.0 startup-sequence does this automatically for you). It then sits in the background taking up little space, and waiting to spring in to action.

Another very powerful feature is that the language is implemented as an Amiga shared library. As a result you can launch as many ARexx programs (aka macros or scripts) as you like without loading up an interpreter for each one! ARexx also has excellent tracing debugging facilities, useful both to the beginner and to the developer.

There are three main uses for ARexx. Firstly, it can be used as a replacement script language for AmigaDOS. AmigaDOS is notoriously difficult and awkward in its constructions, and some jobs are best not attempted at all with it.

ARexx, on the other hand, is not only good with loops and IF statements, but more importantly, with text. Complex commands can easily be composed and sent off to the Shell using the built-in communication abilities. We include an example of this further on. Secondly, it can serve as a first class utility language. With the many support libraries now becoming available, ARexx becomes infinitely extendible. Of course, these extensions are not really a part of the language, but they are very practical and easy to use. In fact, if speed is not a critical factor, you can create professional-looking applications, with minimum effort, and without a single line of C or assembler code! We will see some examples of this later in the series.

But interprocess communication is the feature that ultimately makes ARexx. The fact that programs running concurrently may freely interchange data opens the door to a whole new era of personal computing. Ultimately it will lead to a sort of modular approach where separate programs with ARexx interfaces will all work together, co-ordinated by simple scripts.

Imagine your modem updating your database automatically, while at the same time passing the information to some presentation program that gives you a visual picture of what is going on. All processes switch themselves on and off automatically, and you have full control of everything without even having to leave your wordprocessor. This is not the future – with ARexx it is easily possible right now.

ARexx scripts are written using a text editor, just like AmigaDOS scripts. They are usually saved with a special suffix, most often .rexx. To run a script, you use the rx command from the Shell:

```
> rx myscript.rexx
```

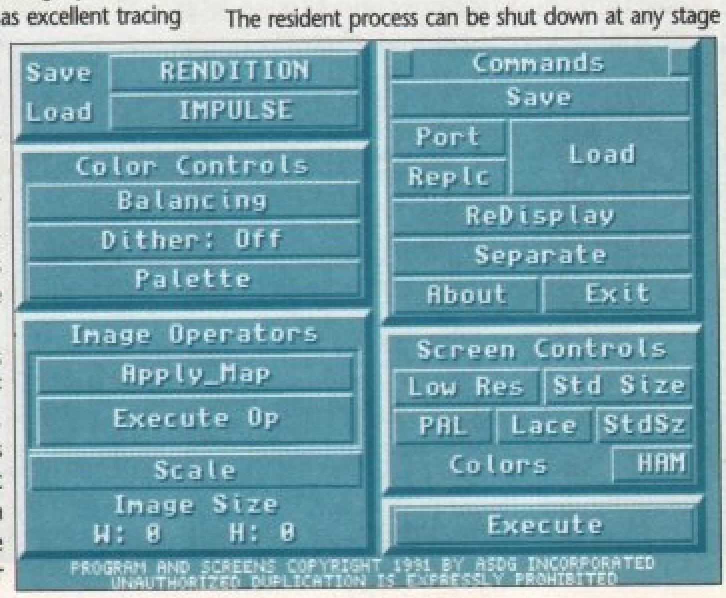
There are two points to note here. You can launch single line ARexx commands from the Shell if you precede the ARexx command with a quote, eg:

```
> rx 'say 2+5
7
```

You can create a directory called rexx, and assign the logical name rexx: to it, for storing your ARexx scripts. It will always get searched. Further, if a file called from rexx: has a .rexx suffix, you do not need to specify it. In other words the following two command lines are equivalent:

```
> rx rexx:myprog.rexx
> rx myprog
```

The resident process can be shut down at any stage



# know ARexx

## Alex Gian begins his in-depth look at the language that finally made the big time

with the rxc command – you need only do this if memory is really tight. Now let's look a bit at the language. ARexx is totally typeless. Unlike many other languages you do not have to initialise integers, floating points, arrays etc. This is because internally everything is handled as strings of characters. ARexx is particularly good at this.

Even numbers are handled as strings, and then converted internally for calculation processes. The floating point precision is also under full user control! On the other hand, high-speed maths is not ARexx's strong point.

### Easy to use

ARexx is a small language and its basics are quickly mastered. The building block units are called Tokens, and they combine to make Clauses, which are the minimum executable statements.

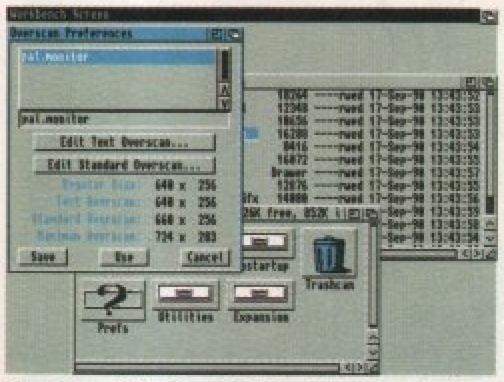
There are five types of tokens – Comments, Operators, Symbols, Strings and Special Symbols.

Comments begin with "/*" and end with "*/" – everything in-between is ignored by the interpreter. All ARexx scripts must start with a comment. If your script doesn't work, check this.

Operators are things like +, =, / etc, which perform operations.

Symbols are mainly used for variables and numbers, eg abc, ProgOne, 456.789, HALF, i.3.4 and month.date are all symbols. Symbols can take on values that you give them. Dotted symbols can take on more than one value, and are used for representing arrays. A symbol that is not given a value has itself as its value (in uppercase!).

Strings are characters inside quotes. Quotes can




*The release of Workbench 2.0 has led to an avalanche of interest in ARexx*

be either single (') or double (") but must be consistent. There are two special cases – strings followed by an x or a b, indicating a hex string or binary string respectively.

Finally, Special Symbols are things like parentheses, colons, semicolons etc, used to indicate functions, groupings and line ends. Clauses work much the same way as "lines" in Basic. They are used for the usual sort of things like assigning values, evaluating expressions and issuing instructions.

There is a very important point to note here. In most languages, if the interpreter encounters a line that is meaningless, it returns a syntax error. In ARexx, however, a clause cannot be meaningless and anything that is not recognised as an instruction or assignment is automatically assumed to be a command, which ARexx will then send to an external program.

This is discussed more in the boxed text, but first let's look at a trivial script that will illustrate some of what we have already discussed.

```
/* Strings and symbols */
say seasons greetings "Please enter your name :"
pull name
let.1 = 'j' ; let.3 = 'n'  /* ; allows 2 clauses on 1
line */
let.2 = '61'x                    /* ASCII hex for a
*/
month = ""           /* The empty string */
do i = 1 to 3          /* A loop */
month = month||let.i      /* || is the joining-up
operator @l = */
end
a = "Happy New Year"
say a name "-" month 1 1900+92
```

The output is: Happy New Year YOURNAME - jan 1 1992

The above example should illustrate the extreme ease with which strings are handled. But we are still only scratching the surface – we will return to this subject later, when we examine "parsing" (i.e. meaningful reading) of strings by ARexx.

● *Next month we'll be looking at the many aspects of using ARexx functions. Ed free.*

### Interprocess communication

Welcome to the really exciting part, the data communication between programs running at the same time. ARexx makes use of the so-called "port" structures provided by the Exec multitasking kernel of the Amiga.

You do not really have to concern yourself with these, unless you plan to design ARexx interfaces for your own programs. Simply put, ports are pieces of code in memory that can receive data "messages" from programs, without getting in the way too much.

They are generalised structures, which are customised by the programmer. For instance, the Intuition Graphic environment uses special (IDCMP) ports to communicate mouse-clicks and so on. These ports are, of course, different to ARexx ports.

ARexx ports each have their own individual name. The only thing that the general user needs to know is the name of an ARexx port. Messages (Commands) can then be sent directly to that port by specifying its name, or "host address", as it is also known. This is done using the ADDRESS instruction, as we will see. ARexx always has two such host addresses internally available, one currently active, and one "in reserve".

Normally, the default one is called REXX, and is ARexx's own host address. The "reserve" or "previous" one is normally called COMMAND, and is the only special case in host addresses. It is not really an ARexx port at all, but a reference to the Shell/CLI that launched the script – sending a command to the host address COMMAND is exactly the same as issuing it at the CLI!

There are three main ways to use the ADDRESS instruction. Issued as a clause on its own, it has the effect of toggling between the "current" and "previous" host addresses. Issued followed by a parameter, the value of that parameter becomes the new "current" host address, and the one before it becomes "previous", eg: ADDRESS QED1 – the ARexx port of the shareware editor "QED" (called QED1) becomes host address.

Finally, the instruction may also be issued followed by two parameters. In this case the first one is taken to be the host address, the second is understood to be the command itself. If the ADDRESS instruction is used in this way, then the current and previous host addresses are not altered, eg:

```
ADDRESS COMMAND 'dir opt a'
```

The above clause acts just as if dir opt a had been typed in at the AmigaDOS CLI prompt.

The following example program uses the AmigaDOS command SORT to sort a file, and then prints the first n elements you specify. It is a very simple script and there is no checking to see if n is too large. Not all the functions used have been fully explained in the text above, but they should be fairly obvious.

```
/* sort and say */
say "Enter the name of the file to sort"
pull filename
say "Enter the number of elements to display"
pull n
DosCommand = "sort "||filename||" to t:tmpsort"
ADDRESS COMMAND DosCommand
open(No1,'t:tmpsort',read)  /* open the file for reading */
do i = 1 to n
x = readln(No1)        /* read the file line by line */
say "Element number " i "=" x
end
close(No1)        /* not necessary, but good practice */   @l = say "Bye ...."
```

# Viable visuals

## Paul Austin takes a closer look at Power's latest venture in videoland

As you're no doubt well aware the Amiga certainly isn't short of genlocking hardware. Unfortunately, if you're after anything more than the basics it invariably means spending a serious amount of money on high-end S-VHS kit, complete with multiple wipes, fades and a £600 plus price tag.

As a result, enthusiastic amateurs have been rather restricted as far as video graphic whistles and bells are concerned – primarily because anything below the £200 barrier suffers badly in the flexibility department.

The good news is that Power Computing has broken the financial ice by announcing an all-new Italian import, namely Microgen from Newtronic. Admittedly it can't match S-VHS spec or the complex effects available with systems such as Rendale's A8802 S-VHS, but it does go a long way towards bridging the gap between the haves and the have-nots in the DTV world.

Using the genlock is simplicity itself – you just plug in the supplied connections to the video source, the Amiga and output VCR sockets. Like all budget genlocks, Microgen is strictly a composite system employing standard phonos to make the necessary connections to your play and record machines.

One of the few disappointments is the lack of security screws to retain the Amiga and monitor cables on the rear of the unit. Admittedly this may sound a bit picky, but if you've ever had the misfortune of fiddling with the Amiga's RGB-to-monitor connection you'll know all about its less that co-operative nature.



*Should Kevin save his arrows and invest in a Microgen? Course he should, course he should...*

The unit itself comprises a plain black box about the size of the average hardback. As with all Newtronic products the layout is simple and direct. The front of the unit consists of two flick switches, a central power light and a solitary black knob to control fades.

The first of the two flick switches alternates between the video and mix options, with the second defining whether the Amiga signal should be keyed or inverted.

The rear of the unit is slightly more inspiring thanks to the inclusion of an RGB through port – an option which many budget genlocks sadly lack.

Alongside the RGB output sit both the video in and out phono sockets, plus the 23-pin RGB input which receives the Amiga's signal direct from the video port. Another input awaits the power supply, but it isn't actually used as the genlock takes its power direct from the Video port. I can only assume that the power socket is forgotten relic of an earlier incarnation.

Aside from the technical merits of the unit, by far the most important aspect of any video graphic system has to be pure image quality. In this particular department Microgen can hold its own with any system in the composite market.

### Top quality

The output is excellent in all configurations and unlike some cheaper genlocks there's little, or no, colour bleeding between overlaid graphics and video sources. Transitions between fades are smooth and even flicking between display states doesn't cause any video nasties...

The Unit has four basic states, the first of which is the basic video through format which passes the Amiga output to the monitor as normal, while routing the clean video signal direct to the record VCR. This is ideal for preparing or loading images and anims during the production – once all's well you can flick to the setup you need and apply the effect, then return to prepare the next.

The second state is a basic mix, which is applied with the assistance of the fader, transforming the display from solid video to Amiga graphic. The fader produces excellent transitions, but to be honest a traditional slider would be a little more manageable.

Next comes the most famous of all genlocking tricks, namely the keying of incoming video over colour zero in the Amiga's register. Again the fader is employed to apply the desired mix.

Lastly comes the Invert option, which as the name suggests allows you to swap the roles of the Amiga and video signal concerning the overlaid display. In other words all colours except the zero colour become transparent.

At first glance this would appear to be about as much use as a chocolate teaspoon. In fact this couldn't be further from the truth, as it allows you to animate the display even further. For example with the assistance of Dpaint, areas of clear video windows can glide over partially or completely obscured background video. Again the fader can be applied to add the desired amount of mix between the Amiga and video output.

Overall it's hard to find fault with a unit that comes in at £199 and still boasts such an impressive array of abilities, while retaining near broadcast-quality output.

For further details contact Power Computing on: 0234 843388.

### The alternatives

If you're a sensible soul, it's a good idea to shop around. Take a look at Rendale's A8802. This is an old favourite on the Amiga and has been around a fair while. Nevertheless, it's the only real opponent for Microgen.

As standard it can't compete with Microgen for flexibility, but if you're willing to have a bash with a soldering iron it can be adapted to produce the three basic modes. Its strength is its expandability – it can be transformed into its bigger brother, namely the A8802 S-VHS. The upgrade will set you back around £400 for the additional circuitry and external control box.

To be honest, if you've no plans of moving into S-VHS, the Microgen is almost certainly the best bet.

# Sound on cue

## Margaret Stanger continues her series on getting the best sound from your Amiga

This Programming column is the third in a mini series on sound. The first part of the series showed how to produce a sound by writing to the Amiga custom chips directly with a pointer to the chosen sound samples.

The second part demonstrated how to vary the pitch of the sound and produce a few musical notes. This month's page shows how to use the Amiga system software to control the start and finish of each note, leaving your program to do more important things.

First, a quick recap. When the end of the sound data is reached, one sound cycle has been performed, and an interrupt will occur. The sound starts and ends smoothly only when the sound is at the beginning or end of a sound cycle, and the current sample is zero.

The system software can detect the generated interrupt, and can be used to turn the sound channel off when the correct number of sound cycles has been completed. The system can inform us when this has happened, and when there is no more sound queueing up for the channel.

The software routines for controlling the sound are not in any of the usual libraries, but in an Audio device which is a collection of software routines like a library. When a device is opened, there is an associated IO parameter block. This structure contains all the structures a device may need to handle incoming and outgoing messages.

There is also a Message structure which includes a node for keeping its place in a linked list, a message port for replies and the length of the message in bytes. The message port in turn has its node and flags, its own signal bit, its task and a pointer to the header of the task list. The IO request structure, and how it passes commands and data, was described in the October issue of *Amiga Computing*. The IOAudio parameter block is extended for audio requests:

```
STRUCTURE     IOAudio,IO_SIZE
WORD          ioa_AllocKey
APTR          ioa_Data
ULONG         ioa_Length
UWORD         ioa_Period
UWORD         ioa_Volume
UWORD         ioa_Cycles
STRUCT        ioa_WriteMsg,MN_SIZE
LABEL         ioa_SIZEOF
```

An allocation port is set up to allocate the sound channels, and an allocation IO structure for its commands. This port and parameter block are associated with the opening of the audio device.

A message port is opened for each sound channel – it usually serves as a collecting point for messages to a task, but this time a software interrupt is generated each time a message is received.

An interrupt structure is initialised and linked to a sound port, and the list header initialised. I have included a code fragment:

```
lea           interrupt0,a5
lea           newbuffer0,a0
move.l        a0,IS_CODE(a5)
lea           soundPort0,a5
move.b        #1,MP_FLAGS(a5)
move.b        #4,LN_TYPE(a5)
lea           interrupt0,a0
move.l        a0,MP_SIGTASK(a5)
lea           MP_MSGLIST(a5),a0
NEWLIST a0
etc,etc
```

The interrupt is linked to the code to be executed when the sound in the channel is finished. In the code the message is received and the flag cleared. Interrupt code must preserve all the registers, and reset them afterwards:

```
newbuffer0:
movem.l   d0-d7/a0-a6,-(sp)
move.l    _AbsExecBase,a6
lea       soundPort0,a0
jsr       _LVOGetMsg(a6)
clr.w     s0flag
movem.l   (sp)+,d0-d7/a0-a6
rts
```

When all this has been set up, sound commands can be executed. The parameters are put in the IOAudio structure, the command is CMD_WRITE, the flag is ADIOF_PERVOL, and BEGINIO is used (rather than SendIO or DoIO) to start the sound going. The sound will finish after the chosen number of cycles has been completed.

The final part of this mini series next month will demonstrate background noise and simple music.

## The C source code

The C source code can be compiled, and the object code linked to the assembler object code to produce a second program. The Audio device can be opened and the sound structures set up using the CreatePort and CreateStdIO routines from the Exec Support Library – available for C programmers.

I prefer to write the interrupt and other sound routines in assembler, but these routines can be easily linked to a C main program. I assembled the assembler source code without the underscore option, and took care to declare the routines to be used externally.

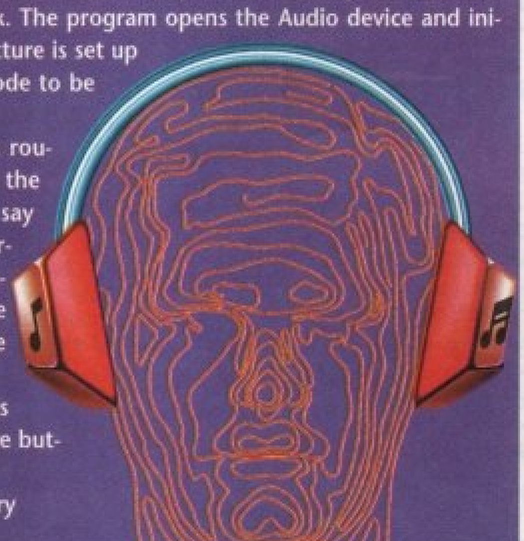
The C source code can be compiled, and linked to the assembler source module using the command :- blink with sound3link where sound3link is included on the support disk, along with both object modules, sound3.o and soundc3.o. The C program opens a window, and calls initsound() from the assembler module to open the Audio device and initialise the sound structures.

The main polling loop for the window continues until the user asks to quit, either by closing the window or pressing key 3. Each time key 1 is pressed, the program calls the bell() routine from the assembler module; key 2 is pressed for the "sploit" sound in a similar way.

When the quit signal is received, the program calls the clearsound() routine from the assembler module before the window closes and the program ends.

## The assembler source code

The assembler source code (sound3.a) is a standalone program. The program starts by opening the DOS library, allocating chip memory for the sound samples and reading the data into memory from short sound sample files on disk. The program opens the Audio device and initialises the sound structures. An interrupt structure is set up for each channel being used, together with code to be executed when the interrupt occurs.



The program calls our old faithful joystick routine. When horizontal movement is detected the program will sound a bell, and set a flag to say that the sound is being made. When the interrupt occurs, this flag is cleared, letting the program know that the channel is clear for the next bell sound. If the bell is selected when the channel is busy, there will be no effect.

A vertical movement of the joystick controls the other sound in a similar way. When the Fire button is pressed the program closes the Audio device, frees any memory, closes the DOS library and exits.

# You know the score

## Paul Austin discovers a new saviour of musical notation and an updated sequencer package

After a relatively lean period during the summer the Amiga sequencing scene has exploded in the last few months, with a seemingly endless stream of power packages pouring in from the States.

Not to be outdone, the old school has made a stand. The new saviour of musical notation is entitled Overture. Although Overture claims to be a fully-fledged professional package, in truth it's a much more dedicated program aimed directly at a relatively unexplored niche in the market.

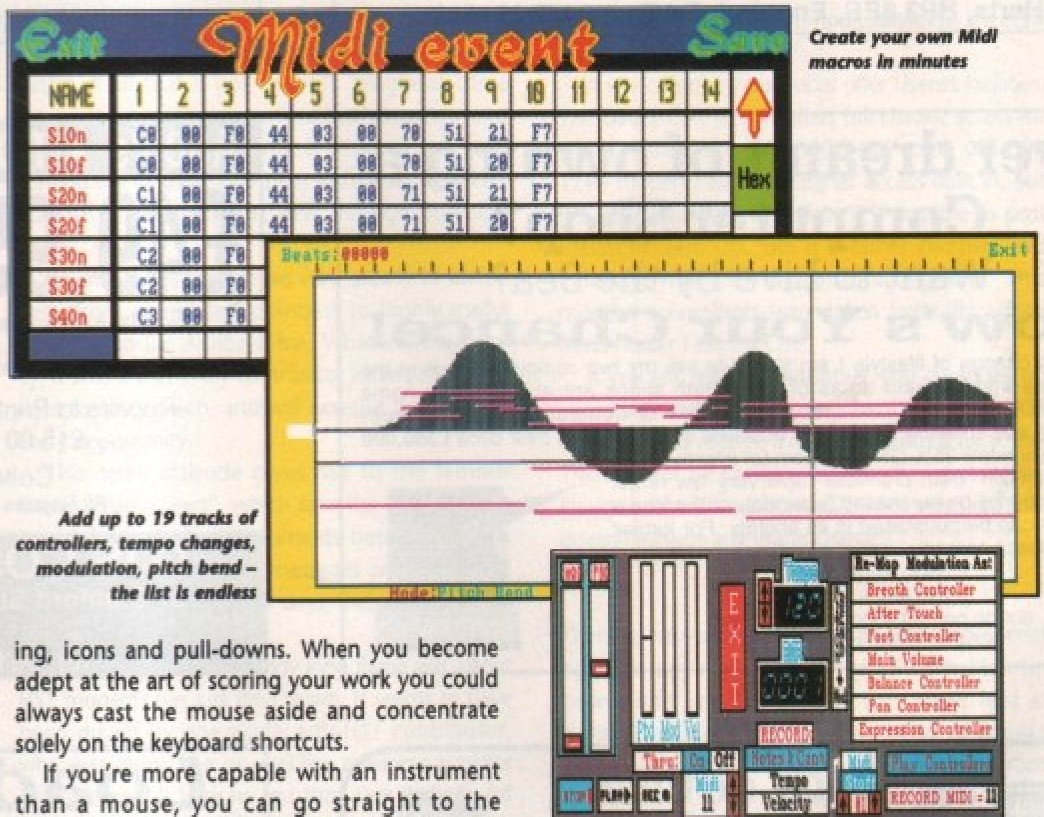
Its primary mission is to transcribe the digital wafflings of the average Midi instrument into the stylised scrawl of crochets, quavers and staves.

The main idea is that you can type written music directly into the program and then listen to your sequence or sound module play it back in the voice of your choice.

Alternatively you can play your own creations live and Overture will transcribe your ivory-tickling into formal notation complete with bass and treble clefs, ties, rests triplets – in fact anything and everything that a classically trained muso will know and love.

Like all Midi packages, Overture takes advantage of the full 16 available Midi channels, and as a result a joint bass and treble staff clef is given to each track. To create a full multi-timbral composition it's simply a matter of assigning the appropriate Midi channel to the relevant track and either typing or playing your music into it.

On start-up, Overture defaults to the staff screen, which as the name suggests displays the twin bass and treble staves within each track. Importing the notation is all rodent controlled with a combination of mouse positioning, icons and pull-downs. When you become adept at the art of scoring your work you could always cast the mouse aside and concentrate solely on the keyboard shortcuts.




*Create your own Midi macros in minutes*

*Add up to 19 tracks of controllers, tempo changes, modulation, pitch bend – the list is endless*

*Keeping music live with the aid of the plain and simple record screen*

If you're more capable with an instrument than a mouse, you can go straight to the Record screen where tracks are laid down live and transcribed into notation back in the staff screen. Muting, modulation, pitch bend and much more can be defined prior to your performance. In general, live recording is equally as well executed as Overture's mouse driven alternative. A separate continuous controllers window allows you to draw control changes via a graph. Simply dragging the rodent across the track defines everything from tempo to pitch bend.

A fourth screen entitled the Midi Event Editor gives access to non-standard Overture options such as System Exclusive operations as well as Omni and Poly control. In other words, it's possible to produce Midi macros that can be loaded, saved and dropped in to your creations as required.

Unfortunately there are a few unpleasant points. For example, Overture's file format isn't standard Midi and at present there's no conversion utility provided. As a result it's left itself on something of a musical Island. Until it provides portable Midi information it won't be taken seriously in the professional market.

Secondly, Overture doesn't have a print option. This is a huge omission as the majority of people interested in notation want it on paper sooner or later. Both these faults are being put right in Overture 2 which should hit the streets in the spring. Expect a full review when it does.

Even as it stands Overture is an ideal beginner's package, especially if you need to master the intricacies of sheet music or perhaps employ it as a teaching tool for others.

Overture retails at a very reasonable £79.95 incl VAT, plus p&p. For more details contact Desert Software on 051-430 7400.

## More Gadjits from Manchester

It's been over a year since the Mancunian musos at Gadjits first promised their long-awaited upgrade to Sequencer One. At last, they've come good and announced Sequencer One Plus. Not perhaps the most inspired title, but it's the contents that count and on that score it seems that Gadjits have certainly done their homework.

As you might expect, the new software has all the features of the old and still pitches heavily in the direction of new musos. Full support for the Amiga's internal sounds are still available plus all the necessary elements of a serious Midi sequencer.

The major additions include Gadjits' new Diamond editing system, which dramatically speeds up editing by employing the rodent to transpose, stretch, shrink, move and delete notes with a minimum of hassle.

Perhaps the biggest improvement as far as performers are concerned is the new "Juke Box" mode, which allows you to daisy-chain songs together. As one song plays, the next is loaded – ideal for stage work or presentations.

The nuts and bolts of the system have also been expanded with the inclusion of tempo maps, auto count-ins, system exclusive management, track solos and enhanced quantise control.

Fortunately Gadjits haven't fallen into the technological trap and as a result this is still one of the easiest sequencers to use and a good choice for any beginner. Having said that if you can afford the extra, Bars and Pipes Professional is probably even better, as it's equally as simple to use while boasting many power features and almost infinite expandability

If you like what you read and fancy a bit of musical spring cleaning, the all-new Sequencer One Plus will set you back £129.95. If you already have the original package an upgrade is available for just £49.95, but don't drag your feet, as this is strictly for a limited period.

For more details contact Gadjits Music Software on 061-236 2515.

# Usenet uncovered

## Stewart C Russell exposes the best kept comms secret of the lot

Where would you go to get programming questions answered by Commodore's technical staff? Where can multimedia problems be solved by the AmigaVision people? Where are the latest Fish Disks to be found? Where is the liveliest Amiga debate?

I bet you're thinking that I'm about to plug a very expensive commercial service. You could not be further from the truth – this one can be free if you go to the right place.

I'm talking about Usenet, the international news/mail network. It used to be the exclusive preserve of the university community, but now it can be had in your own home.

A warning – Usenet is big. Not merely does it span the globe, but a full newsfeed from it currently stands at over 20Mb per day. Sure, that would get you over 1,000 different newsgroups ranging from cookery through Monty Python to current affairs. For a subset of the Amiga news, it's still around 150 to 200k a day, so a fast modem is a good idea.

### Huge choice

Usenet is split into several sections, two of which spring to mind immediately – "rec" (recreation) and "comp" (computers). These sections are further subdivided, so a full newsgroup might be "rec.models.rc" (for all RC models) or "comp.sys.amiga. reviews", which is the online Amiga review column.

Traditionally, Usenet has been the spiritual home of the Amiga. The original engineers were frequent Usenetters in the early days, and the tradition stays on – you'll still find important names on the net.

Because of this, there is a large Amiga crowd on Usenet. There are sections for everyone – programmers, audio people, hardware types, plain users, beginners, buyers and sellers, comms - all human life is there. There's even the Amiga Advocacy newsgroup, where the truly argumentative can explain just exactly why the Amiga does it better. If all that is not enough, programs come across the net in the comp.binaries.amiga and comp.sources.amiga groups. Most of the stuff coming out of these groups is technically oriented, but the occasional game gets through now and again.

The messages themselves vary greatly in usefulness, from completely pointless to highly useful insights into the Amiga scene. Whatever the quality, it seems that every contributor knows about the right to free speech, and will exercise that right at every opportunity.

This open attitude gives rise to the famous Usenet "flame wars", which take the form of long (and often pointless) arguments between several parties. Although Usenet messages are withdrawn from circulation after eight days, these wars can go on for weeks on end.

For example, a particularly long flame war about HST modems has just died down. It seems to have been driven by one wildly anti-HST contributor, who was giving the new v32bis modems a rather glossy image. It took no less than Jack Radigan (of JR-Comm fame) to cool this flamer down, but only after three weeks of inane bickering.

Flame wars are a minor distraction, though. You can make new friends throughout the world on Usenet, and keeping up with them is relatively inexpensive. International mail is charged at around 7p per 1,000 characters in this country, so a short note costs less than airmail, and can arrive in minutes. OK, so where do I get news? If you happen to be at a college or university, there's a fair chance that the central computing service will carry a newsfeed. It's always best to ask before starting to read Usenet – it is, after all, not the most relevant of higher education subjects. As a way to spend a wet lunch hour, however, it's unrivalled.

A few commercial services offer Usenet facilities. The Direct Connection offers full Usenet access for £10 a month. CiX (081-390 8446 voice, 081-390 1244 modem) also has Usenet access built in, but it's a curious read-only affair. It is possible to post messages from CiX, but it is rather complex and certainly won't be logical to a beginner. This month's screenshots were taken from the offline news-reader I use for CiX.

If you felt really adventurous, you could set up your own UUCP node using Matt Dillon's UUCP software, and receive a newsfeed from a local site. This will not be cheap – the standard connection charge in the UK is around £200 per year, and that doesn't include any usage charges.

### Free access

There is, however, a free way of accessing Usenet open to anyone. A few of the larger bulletin boards offer selected parts of the Usenet feed as normal message areas. Nick Lello of Amiga Information (0444-441308, HST 24 hours) runs such a service, and very well it works too.

Public access Usenet puts a lot of strain on the BBS due to the high volume of messages. You may be expected to pay for Usenet access, but it won't be anything major – £10 to £20 a year. That's easily made up by not buying that other Amiga magazine for a couple of months.

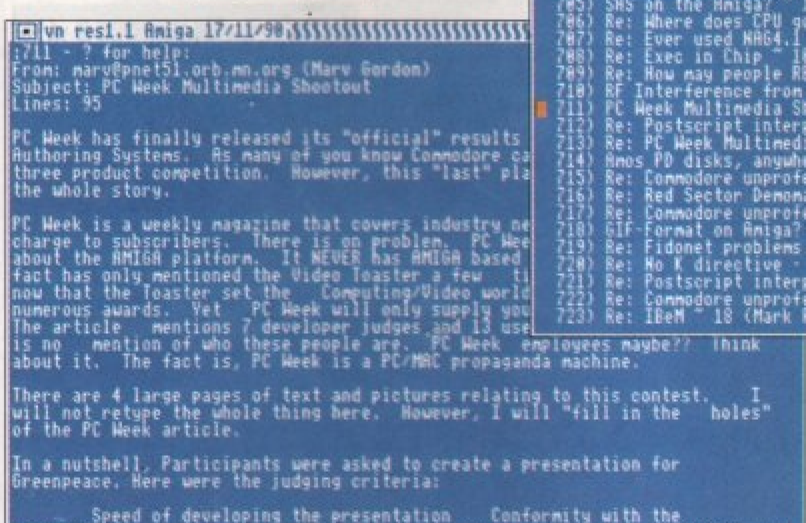
Usenet is definitely worth investigating. In fact, you get the news way before it hits the press – the Announce newsgroup has press releases, shareware news and new Fish disk listings first.

Once you've got into Usenet, you can be a month or so ahead of even the best Amiga magazines – electronic messages don't have to be printed, after all. But after reading all the news on Usenet, you wouldn't desert the magazine that told you about it in the first place, would you?

Stewart C Russell can be contacted on CiX as scruss (that's scruss@cix.compulink.co.uk), or is available at FidoNet 2:259/2.4 (off Alba Maximus, Glasgow).




*This page of messages represents less than a tenth of the day's Amiga news feed. And this news is fresh - anything over eight days old is deleted*




*The real truth about the MultiMedia shootout comes out. Was it fair, or was it tainted by market forces? You would have found out on Usenet.*

# Power up!

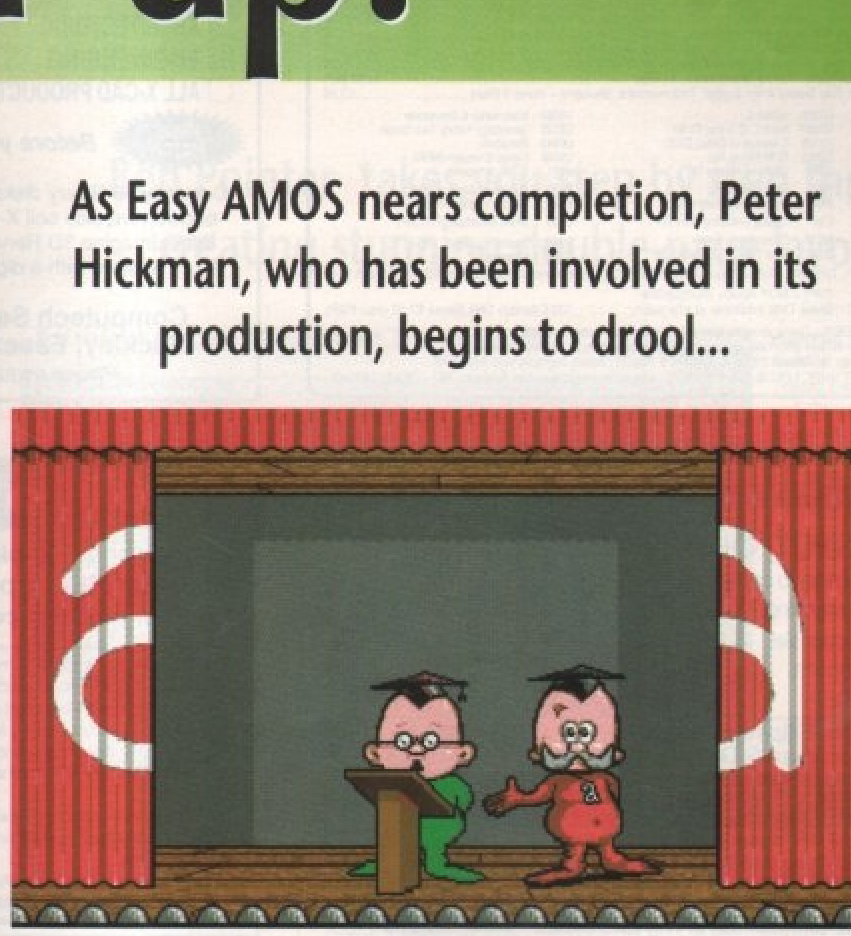
## As Easy AMOS nears completion, Peter Hickman, who has been involved in its production, begins to drool...

Wow, I am rushed off my feet! Easy AMOS is almost ready for release, so testing every nook and cranny is the order of the day. For those of you who don't yet know about Easy AMOS, let me fill you in.

It is basically a version of AMOS which has been designed for people who don't know much about computer programming but want to learn, as well as people who know a little but find AMOS just a little too daunting.

To describe it as a cut down version of AMOS is a little unfair – there are a few commands and facilities which are missing (like menus) but it makes up for them with some really great new ones (like commands to load and play Soundtracker music without conversion!).

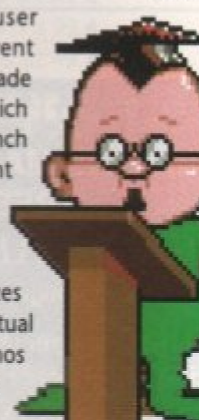
Easy AMOS really is looking splendid. The manual – written by computer veteran Mel Croucher – is humorous and informative and incorporates lots of cartoons. There are loads of example programs on the accompanying disk which are documented and discussed in the manual, so there is only a little typing for those keyboard-shy beginners!



*Easy AMOS now offers a tutorial approach to complete beginners*

### Friendliness

The whole appearance of the user interface has changed since its parent (AMOS) was written. Everything is made up from the grey relief type boxes which we are so used to seeing in Workbench 2, and the editor now uses an eight colour screen to improve the rather bland look associated with four colour examples.



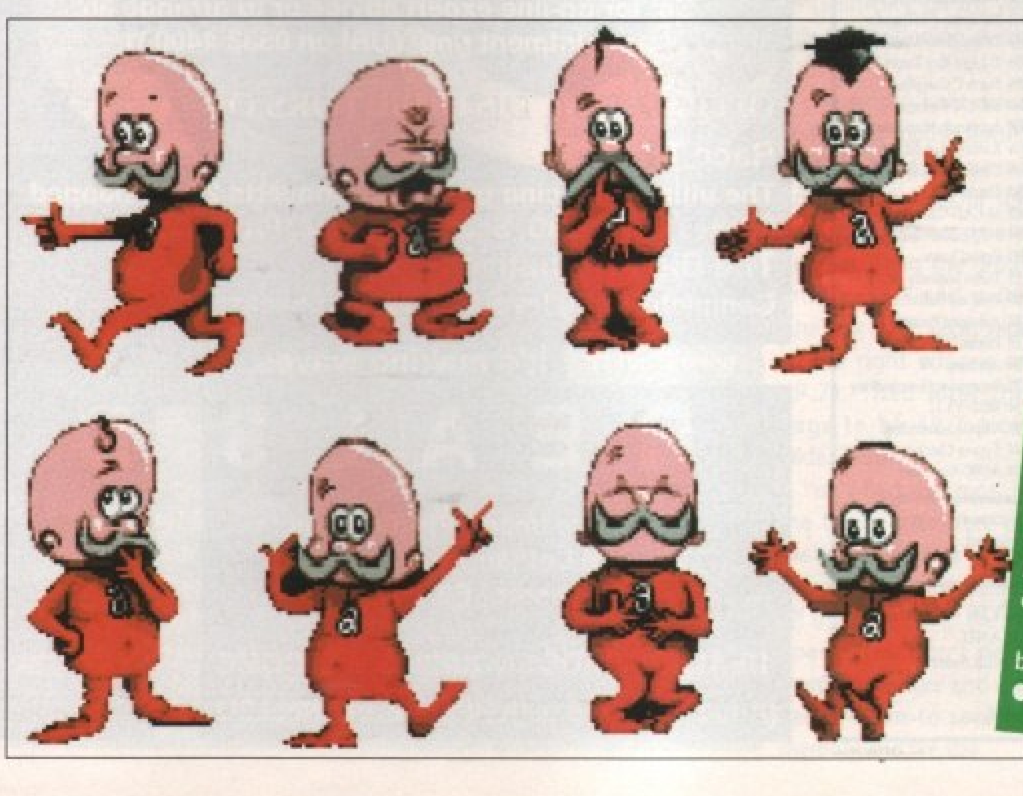
Everything about Easy AMOS oozes friendliness. You can customise the actual language and the accompanying demos with your own name! It really is aimed at the absolute beginner.

One of the more advanced features of this new AMOS is the Tutor. It is, in fact, a full source code debugger which will allow you to single step through your program in order to test it. You can set up break points and even set your own screens, bobs, text and graphics up in a shrunk down window.

This is really amazing and has to be seen to be believed. I understand that Europress Software will be taking this feature and adding it to an improved "full" version of AMOS currently dubbed "AMOS II". Roll on that day!!!

HERE'S a fabo tip for all of you programming Fun School 4 owners. On the Under 5s and 5 to 7s package a new experimental sound extension has been used! This is compatible with the StarTrekker program (a SoundTracker clone) and will allow you not only to play Soundtracker modules without using that dodgy converter but also supports the synthetic instrument/Sound FX option in StarTrekker!

The file is called "MUSIC.LIB" and is a direct replacement for the "MUSIC.LIB" file contained inside your "AMOS_SYSTEM" directory, so all you have to do is copy it across. Unfortunately I do not have any details of the playing commands so you will have to route around the FS4 programs for more information about that.



### Program pointers

Program time!! We are taking a break from our game writing for an issue but I do have some interesting little programs for you.

The first is called NEO_CONV and can be used in conjunction with CrossDos or MessyDos to read picture files from the Atari ST painting package Neochrome straight into AMOS.

The second program is called HAND_RAIN and is an example written by Francois Lionet – the creator of AMOS – to demonstrate how to write a small copper list.

Program three is again written by Francois Lionet and shows how you can customise, move and find out about the screens which AMOS allows you to create.

Finally, program four has been written by me to bring a little smile into some sad programmers' lives! Basically it allows you to produce outlines on text which is displayed using the TEXT command, simple but it uses a lot less memory than drawing letters as complex BOBs.

OK, that's it for this time. In the next issue it's back to Pacman with added AMAL!

● *These programs appear on this month's CoverDisk*

# Spread the word

## Ben Pointer takes you step by step through creating stunning double-page layouts

When you're laying out pages for a publication that is going to be read intermittently – like a magazine, a newspaper, or a "coffee table" book with a lot of illustrations – you can liven up your designs enormously by thinking in spreads instead of left-hand and right-hand pages.

Spreads are two facing pages, and every single square inch is yours to do with as you like, including the "gutter", the fold in the middle of the spread where the pages of the publication are bound together.

But we have a problem, because none of the Amiga DTP packages allow you to have both the left-hand and right-hand page onscreen, and let you work on both at the same time. The ability to view facing pages is all fine and dandy, but lining things up so they are at the same height on both pages is a fiddly and time consuming business when you have to keep flitting from one page to the other, waiting for each to render.

The answer is to work on a page that is two pages wide, and when it is finished break it into a left-hand and a right-hand page. The technique is simple to explain. Let's say we're publishing an A4 size magazine. So we create a spread that is two A4 pages wide, which is 99.4 picas, remembering that the gutter is at 49.7 picas. Draw a bold black line down the spread at that point if it helps, but remember to remove it after the spread is finished.

Now we design our spread, completely ignoring the gutter, as if we are producing an A3 landscape single page. When the spread is finished we make a copy of it. In Pro Page you can do this by making the spread the Even or Odd Template (Shift-Y or Shift-Z) and then Creating a new page from that Template (Ctrl-T).

So now we have two identical spreads. To create the left-hand page we simply Alter the size of the first page to 49.7 picas wide (Alt-C).

Creating the right-hand page is a bit more complicated. We have to group together all the boxes on the page, pick up the group and shift it across to the left so that the right-hand part of the spread is now on the left-hand side of the page.

Sounds fiddly, but if after grouping the entire contents of the spread you then drag out a temporary ten by ten pica box whose top is at 0 picas and whose right edge is at 99.4 picas, and then include that in the group (Shift-click on it), you can use this box as a guide to positioning everything correctly.

To pick up the group you would hold down Shift and then hold down the left mouse button on the "guide" box. The left and top edge position co-ordinates of this box then appear in the title bar. Drag the group until x=39.7 and y=0.0 (the box is ten picas wide so the right edge is on 49.7). Then Alter this page to be 49.7 picas wide. Finished.

You'll find that most of the boxes that were on the left-hand side of the spread have now fallen off the page on to the art board. You don't need them any longer and can delete them to save on memory and file size.




*A spread from a teenage fashion magazine perhaps? Young people respond well to bold use of colour and are usually in too much of a rush to read lots of words. So use a picture to get the message across more quickly and with greater impact.*




*This article has "something to say". The author is angry and the images and colours used all add to the angry feel of the spread. The words are biased to one viewpoint so I slanted everything on the page to reflect this.*




*A more traditional and straightforward layout, but that doesn't mean you can't express yourself. Here I have run the text over the light-blue sky part of the picture. I've used a darker blue for the copy text to contrast with the sky colour, and a bold colour for the heading so that it doesn't get lost in the detail of the picture underneath.*




*Using the three other illustrations I laid out this very article in a style reflecting the message of the words. Remember not to run small point sizes across the gutter as some of it will get lost in the fold.*

### Design considerations

Don't be frightened to express yourself when designing spreads. Anyone can produce a boring old layout with columns of text and neatly placed pictures, and while there's a lot to be said for "boring" layouts, they say nothing about you.

Have a think about what the spread is about. Does the article make a bold statement? So be bold with your layout – use a bold typeface and bold, contrasting colours. Is the article light-hearted, funny or witty? So have some fun with the design – use a light typeface and publish something sideways or upside-down.

I used Pro Page to prepare a few example spreads to illustrate this article and maybe give you a few ideas. Remember there are absolutely no rules – if someone "experienced" in page layout sniggers at your design, it usually means they wish they had thought of your ideas first.

# Pocket Shakespeare

## Jolyon Ralph finds poor Yorick preserved forever on compact disc!

More CDTV titles keep falling through my letterbox. The latest to arrive are from Animated Pixels, who publish the Illustrated Holy Bible and the Illustrated Works of Shakespeare. Both are basically the same program with different text and pictures. They're actually dual-format discs, which will work on either the CDTV or on a PC with a CD-ROM.

The illustrated Shakespeare has the full text of all of Shakespeare's plays and sonnets. The text is accessed through an easy-to-use system written in a combination of AMOS and assembler. You can browse through the text, skip to a particular position in any of the books you want to view, or search one or all of the books for a particular word or words.

So, if you can't quite remember which play "Alas, poor Yorick" is from, you can search for the words ALAS, POOR and YORICK, and it will tell you that it is in Act 5, Scene 1 of *Hamlet*. It takes only five seconds to scan through each book, so you won't be left waiting long. There are plenty of pictures to go along with each play, but they look like they've been scanned in from very old texts, and are not that good.

The Illustrated Holy Bible works in exactly the same way, except it has the full text of the Old and New testaments on the disc and some rather poor pictures.

I can see both discs will be very popular in the education market, although I'm not too sure about the general home appeal of either – they're certainly not the sort of thing I'd rush home to play on my CDTV. If you've got a CDTV and an Amiga, or an Amiga with a CD-ROM, then you will be interested in the latest CD from Hypermedia Concepts in the States.




*Choose which part to read in Illustrated Holy Bible*

Their Fred Fish Collection on CD-ROM contains every Fish disk from number 1 to 530. With an Amiga CD-ROM you can access any file directly, as if it was a 600Mb hard disk.

With the CDTV, external drive and a keyboard you can have your own public domain library. Choose the disk you want from the library, put a blank disk in the floppy drive and within 30 seconds you get a perfect, virus free Fish disk from your CDTV.

You may remember my review of the less than brilliant product CD-Remix from Microdeal. They have just announced that they will be launching an improved version, called CD-Remix II. After a little play with the product I can say that it is vastly superior to the previous version, and all the major problems – like stopping the CD audio when you play an Amiga sample – have now been sorted out. If you own CD-Remix then contact Microdeal for upgrade information. A full review of CD-Remix II will follow very soon.




*Each play in* **The Illustrated Works of Shakespeare** *comes with several pictures like this*

## CDTV revolution gathers speed

CDTV sales have improved dramatically in the run-up to Christmas. CDTV is now on sale in Dixons, Comet, some electricity showrooms, Alders as well as all the better independent computer shops.

Commodore have relaxed their regulations on how the machine is to be marketed. Previously storeholders had to keep the CDTV away from computers and games consoles and were not permitted to refer to it as a computer.

Now these restrictions have been dropped. Commodore UK have decided that "Amiga" is a strong brand name, so has renamed CDTV "Amiga CDTV". Commodore are confident that they will have 30,000 units installed in the UK before the end of January.

The Commodore internal genlock is now available for the CDTV. This replaces the modulator card – so you cannot use it at the same time as the Advanced Video Mode card mentioned last month.

It has some clever features. Firstly, unlike cheap Amiga genlocks, the genlock mode is software-switchable. This means you can switch between video, CDTV or video and CDTV with buttons on the infra red remote controller, so you can watch *Neighbours*, play Lemmings, or watch *Neighbours* while you play Lemmings ("Oh no!").

The other neat trick is that the genlock output is passed through the RGB port as well. This means you do not have to have a separate video input to view the output from the genlock. Another neat trick.

The genlock is available now from all good CDTV dealers at £149.99. More news next month when I get my hands on one to use with a karaoke system!

## OFFER A

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## OFFER B

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This "Rolls-Royce" of joysticks is available in black. It features an 8-position tension control, foam padded grip, six-foot connector cable and microswitched fire buttons



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## OFFER C

### MERCENARY III

Experience the ultimate in space crusading with the block busting Mercenary III from Novogen.
This month's *Amiga Gamer* describes the sure-fire hit as "Captivating, intriguing and easy to get into".
It normally costs £29.99 but you can get it free by subscribing today!
Take a look at the full review on page 20 of this month's *Amiga Gamer*




FREE

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AMOS is the definitive language for the Amiga. Creating graphics, text, sound and much more is simplicity itself. Over 40,000 users already know the benefits of using AMOS and you can join them at an incredibly low price when you subscribe to *Amiga Computing*.




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Generate outstanding 3D effects as seen in many software classics like Elite and Starglider II. You can create complex objects using building blocks which you can stretch, rotate, resize and glue together. You'll soon be creating your very own 3D world.




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AMIGA COMPUTING

# SUPER

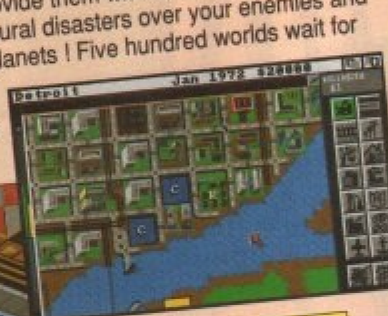
## SIM CITY/POPULOUS



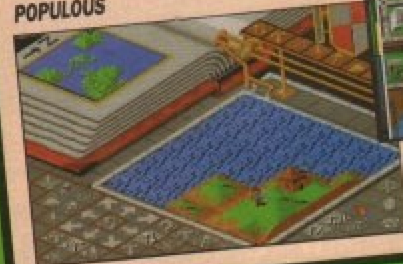
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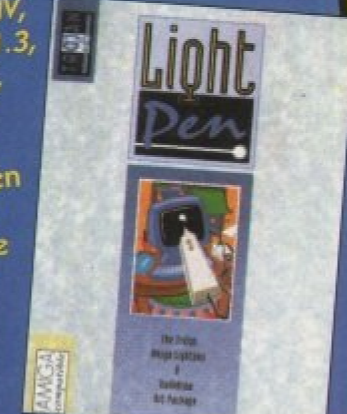
CODE 9868 PRICE £17.95

## Attention All Designers!

## Trojan Lightpen

The Trojan Amiga compatible lightpen can be used as a complete replacement for the mouse in many applications. Particularly useful in drawing and design, the two button pen provides the user with a very direct method of control.

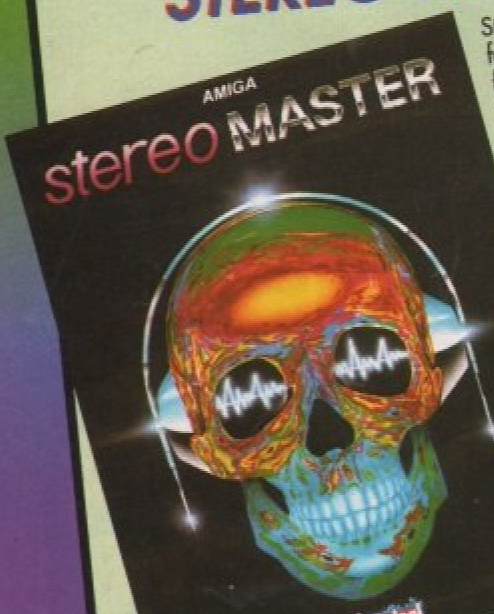
This package also includes KWIKDRAW - a lightpen compatible drawing program, plus a lightpen driver that allows the pen to be used with most programs that run from Amiga Workbench. The lightpen is also compatible with: *DPaint III and IV, Photon Paint, Workbench 1.2/1.3, Battlechess, Professional Page, Music-X and Audiomaster V2.*




Easy to use, the Trojan lightpen will have you producing designs and drawings that are far superior to those produced using a mouse.

CODE 9870 PRICE £34.95

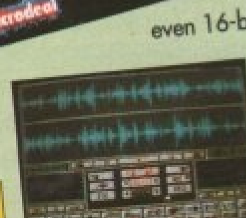
## PLAY IT AGAIN WITH STEREO MASTER!

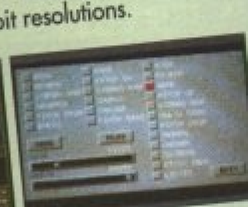



Stereo Master is the latest full feature STEREO sound sampler for the Amiga. This completely new hardware cartridge contains DUAL analogue to digital convertors, ensuring the ultimate in 8-bit sample quality.

The system can record in high quality stereo from its twin phono input sockets, sampling anything from a portable CD player to live radio!

Stereo Master comes complete with powerful editing and special effects software which allows samples to be loaded in 8, 12 or even 16-bit resolutions.





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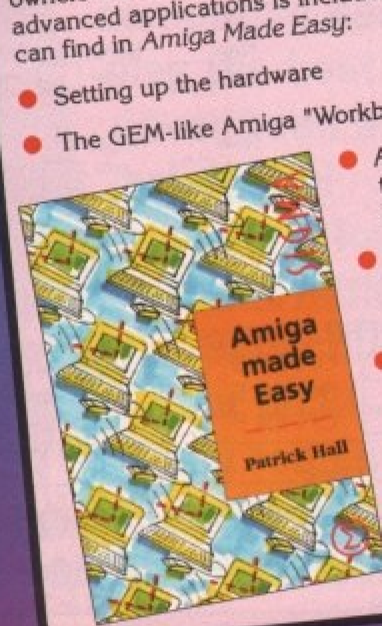
## Amiga Made Easy

**by Petrick Hall**

Make the most of your Amiga and use it to its full potential. *Amiga Made Easy* is essential reading for all Amiga owners who are struggling to do more than scrape the surface of this machine's many capabilities.

This book explains exactly how to use the Amiga effectively – even for newcomers with no previous experience. Existing owners will also benefit as a comprehensive guide to more advanced applications is included. Here a sample of what you can find in *Amiga Made Easy*:

- Setting up the hardware
- The GEM-like Amiga "Workbench" graphic environment




- Applications software (including the "best" games and Amiga business software)
- Programming the Amiga, complete with joystick and window control
- Amiga graphics and mouse programming
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# BARGAIN OFFERS

## The WORKSTATION is here!

It's no secret that the Amiga is the most powerful home computer of them all. What has remained a mystery for most newcomers is how to make the most of its immense potential. Now **Amiga Computing** has produced a floppy disk that is packed with everything you need to take the hassle out of harnessing the inbuilt power of your Amiga.



Many months of research and testing have resulted in a **simple-to-use**, single disk replacement for Commodore's Workbench which we're calling The WorkStation.

This indispensable collection of utilities, including some outstanding shareware never before assembled together on one disk, is now available for just £3.50.

**It's too good to miss!**

Aspiring artists: Here's the package you've been waiting for! Using nothing more than your trusty mouse you can now freeze and store any Amiga screen that runs under Workbench. Grab screens from your favourite PD game and "edit" those high scores using any popular paint package.

Got a faulty floppy? When vital disks get damaged, you'll now have the chance to try the seemingly impossible mission of recovering all your work. Workbench's geriatric DiskDoctor can be sent into retirement by this super utility!

Putting print to paper? The WorkStation disk includes a superb text editor. This powerful package has an unashamedly no-frills approach to producing and formatting professional looking text that would be envied by many of the more expensive commercial products.

The ability to design custom icons as standard is virtually unique to computers in the Amiga's class. The WorkStation turns your Amiga into a comprehensive design studio, providing a wide range of graphic tools that can make icon creation child's play.

The WorkStation has a fully configured dynamic recoverable ram drive which acts like an extra invisible drive to your Amiga. It's a vast improvement on the standard Amiga drive because it is very flexible and goes easy on memory.

Heart of The WorkStation is a powerful shareware package called SID. When you use it you can say goodbye to faceless blank screens and complex commands. Instead your mouse takes full control. Fiddle with files, display text and graphics, sample sounds, uncrunch archives... all this and more with just a click of a mouse button.

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**FOR THE AMIGA**

**Personal Finance Manager provides an easy way of looking after your bank account, building society account, credit cards and so on. Its WORKBENCH interface allows transactions to be entered or altered as easily as filling out a form**

Full mouse control of PFM's window environment means a really user friendly program. PFM for the Amiga appears and runs exactly the same as our top selling PFM program for the Atari ST.

Automatic Standing Orders means that regular payments are never forgotten, whilst the graphic display will help you manage your account more effectively. Personal Finance Manager will even attempt to match your statements by automatically identifying transactions that haven't yet been cleared.

- *The number of entries is limited only by the size of the memory*
- *Full Workbench interface*
- *Account entries are automatically placed in date order*
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- *Automatic standing orders*
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**Computer Animation From Video With –**

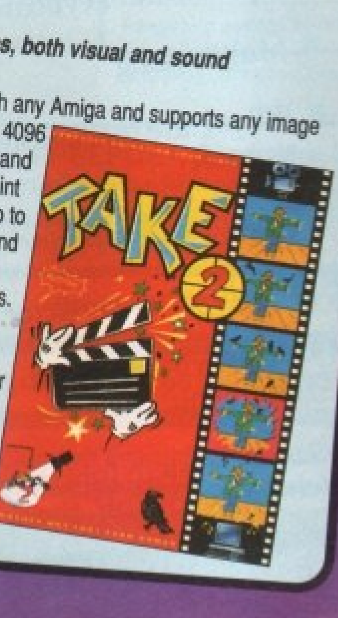
## Take 2

**From Rombo**

**Take 2 is a must for computer artists and enthusiasts of any age. It will cater for both amateur and professional applications and help you get the most out of your Amiga. It can be used for the following applications:**

- *Traditional animation*
- *Storyboards*
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- *Cartoon productions, both visual and sound*

Take 2 is compatible with any Amiga and supports any image from two shade mono to 4096 colour Ham mode. Load and save IFF images or D.Paint Animations. It includes up to four levels of animation and channels of sound and many other useful features.




With Take 2 you can become your own animator in your own home.

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## VIDI-AMIGA

Thanks to a breakthrough by Rombo Productions in frame-grabbing technology, you can now produce good colour images quickly and cheaply with Vidi-Amiga and the VidiChrome colour software.

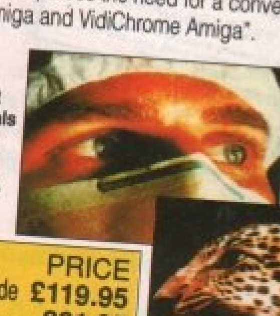
FULL PAL SCREENS

- *Take snapshots in 16 shades live from video*
- *Multiple frame store*
- *Dynamic cut and paste*
- *Full palette control*
- *Hardware and software control of brightness and contrast*
- *Compatible with all video standards*

"Also available – Vidi-RGB Colour Splitter. The splitter is an electronic filter which takes a colour video signal and separates it into the three primary colours, allowing each to be digitised. Replaces the need for a conventional filter set and ideal for use with Vidi Amiga and VidiChrome Amiga".



**"Vidi must be one of the most exciting peripherals you can buy for your Amiga"**
*Amiga Computing, March 1990*



| CODE | PRODUCT | PRICE |
|---|---|---|
| 9891 | Vidichrome plus col. upgrade | £119.95 |
| 9964 | RGB Splitter | £61.95 |



# AMIGA COMPUTING BARGAIN OFFERS

## HUGE PROFESSIONAL

**A complete program for producing icons sprites, brushes and bobs.**




Features:

- Supported formats: Image (C & ASM), Sprite (C & ASM), Brush (ILBM), Bob (Amiga Basic) and icons (Workbench)
- Full conversion ability between all supported formats
- Icon editor built in, enabling full icon properties modification
- Functional & user friendly interface, keyboard shortcuts
- Complete user control over display mode & palette
- Advanced drawing capabilities, including 6 drawing tools, flood fill & basic dithering technique
- Font support, palette control & source code palette IO
- Bitmap editor capabilities, including cut/paste, mirror & rotator and 2 pages for drawing
- Advanced zoom concept, featuring custom magnification trailer zoom & co-ordinates display

**Why use several utilities if one program can do it all?**

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## POWERPACKER PROFESSIONAL v4.0

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**POWERPACKER** uses sophisticated "crunching" algorithms to reduce the sizes of files, allowing and average of 40% more material to be stored on the medium of your choice.

**POWERPACKed** programs load, "auto-decrunch" and run.

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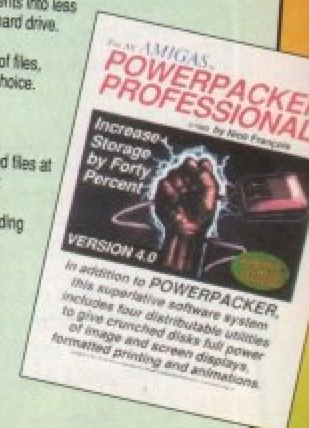
**PPMORE** A fully-pledged screen text reader with options for string search and sending an on-screen image to a graphics printer.

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*Plus* **DECRUNCH,** a utility that restores files to original sizes.

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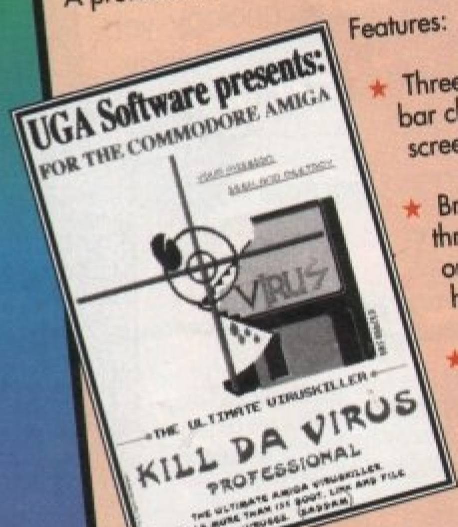

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A professional viruskiller that recognises more than 138 viruses.




Features:

- Three versions included from a title bar clock version through a custom screen 3D gadget version (KDV5).
- Brainfile which is being updated through PD channels and of course on Newsflash so you will always have an updated version.
- Store your bootblocks on disk so you can restore them when your bootblock is destroyed by a nasty boot virus (Saddam etc etc).
- Checks your memory and will kill any live virus to avoid further spreading on healthy disks. Any unknown bootblock will be analysed with a 'learn' option so next time it can be identified.
- Userfriendly menus so easy to work with.
- Full support of Kickstart 2.0 and hard disks.

CODE 9863 PRICE £14.95

## POWERMENU v2.0

Features:




- Userfriendly utility to produce your own (hard) disk menu's
- Ideal for floppy and hard disk users
- Full support of mouse, joystick and keyboard
- Multitasking
- IFF picture (background pictures) and Amiga font support
- Big Agnus support
- Built in virus protector
- Comes with PD menu compiler so you can spread your menu
- Several system functions (chipmem on/off, time) included

CODE 9862 PRICE £17.95

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| January 1992 + 3.5in disc | £3.10 | *9743* |
| February 1992 + 3.5in disc | £3.10 | *9744* |

*Back issues from other months are available – phone for details*
*Add £2 Europe/Eire, £3.50 Overseas for postage per issue*

### Amiga Computing Back issue Bundle
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*Add £6 Europe/Eire, £12 Overseas towards postage*

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| 25 Assorted Amiga Computing cover discs | £20.00 | *9888* |

### Phazer Gun
Bored with play ing those repetitive joystick based games? The advanced light Phazer Gun from Trojan opens up a whole new phase of computer entertainment, presenting the challenge of skill and accuracy for gameplayers of all ages. Pack includes two free games and other games are available.

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**Phazer Gun Games**

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|---|---|---|
| Aliex | £9.95 | *9807* |
| Enforcer | £9.95 | *9806* |
| Firestar | £9.z95 | *9823* |

### ProFlight
ProFlight, the most realistic flight simulator produced for the Amiga, doesn't forget it's primary role as a simulator and its secondary job of being a "shoot-em-up." Achieving accurate simulation by using exact mathematical models of flight equations, you meet the challenges that Tornado pilots face everyday.

£34.95 *9816*

### Spell!
This unique package makes practising spelling loads of fun. Suitable for children from 5-15, SPELL! allows the user to learn at his or her own pace. It includes five different tests, each making use of more than 5,000 words – so much variety that you'll never get bored.

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### Fun School 3
Designed by a team of educationalists, these exciting programs provide the ideal way of introducing youngsters to the joys of using a computer. The computer monitors the child's progress and adjusts the skill level automatically, so children can enjoy learning at their own pace.

| | | | | | |
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A comprehensive guide to the Amiga's Disc Operating System, this book takes a new approach to understanding and using the Amiga and contains a wealth of practical hands-on advice, hints and tips.

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ROCK

# Lobster

MARCH 1992

TRIVIA PAGE OF THE YEAR

NEXT MONTH

LOBSTER INVESTIGATES...
IS COMMS BORING?
OUR 350-PART SERIES COMMENCES

Amiga Lifestyle
CAN TALKING TO YOUR AMIGA REALLY IMPROVE ITS PERFORMACE?

**But seriously...**
The next action packed instalment of Amiga Computing goes on sale on Thursday March 5 1992.. Be there or, erm... don't.

# MYSTERY LYNX LINK WITH BIFFA

**THOUSANDS of teenage kids (some of them girls) are tonight heart-broken as their idol, Biffa, has been spotted sharing his Lynx with a mystery outsider.**

One of the teen–star's fans (who we are calling Linda to preserve her identity) summed up the mood of droves of devastated adolescent followers: "I suppose we will have to make do with Macauley Culkin now," she wept bitterly.

Biffa's agent, Dan "blu–tac" Whitehead was unavailable for comment as we went to press. It is however understood that Biffa has flown to the States to begin filming on the set of the next John Hughes movie smash. Provisional working titles for the project include "Uncle Biff", "Curley Biff", "Home with Biff" and "Biffa Buellers Day Off". John Candy will co-star.



PHOTOGRAPH: COURTESY GAMES-X, EUROPRESS INTERACTIVE

*The picture that broke a thousand hearts, and almost as many mirrors. Biffa (right) with the new woman in his life... and we know it's a Gameboy!*

## X-WITZ

***It's the game everybody's talking about – Lobster has taken the world by storm by turning a crossword on its side. Today pit your wits against our X-witz experts and win ABSOLUTELY NOTHING! – Remember someone MUST win absolutely nothing... it could be you!***

**Across**

**1.** One of the basic items needed for operations like titling (5,4)

**6.** With the Amiga, it's possible to get close to the ---- of leading technology (4)

**7.** ---- Amiga, one of the best value digitisers on the market (4)

**9.** Rather obvious nationality of Adolfo Giannini, boss of mousy company Contriver (7)

**12.** Something you won't be taking if you check every disk with a virus checker (4)

**13.** Acronym for the usual interface used for music applications (4)

**15.** The Amiga's friendlier interface – clue: it's not the CLI! (9)

**Down**

**1.**You can alter this in some DTP programs and at least one flight sim (4)

**2.** Turns video images into numbers (9)

**3.** Click on it if everything's alright (2)

**4.** Being good for graphics, and having a fast CPU, the Amiga is very good at this (9)

**5.** The mode you're in when you have the facilities to change the text or picture (4)

**8.** When your computer can be described by this word, it's probably time to change it (3)

**10.**Basically what you do with CAD and paint packages (4)

**11.** Fred of public domain fame (4)

**14.** Short name for a database (2)



COMPLETE SOLUTION NEXT MONTH

## ADVERTISERS' INDEX

# KCS POWER PC BOARD FOR YOUR AMIGA

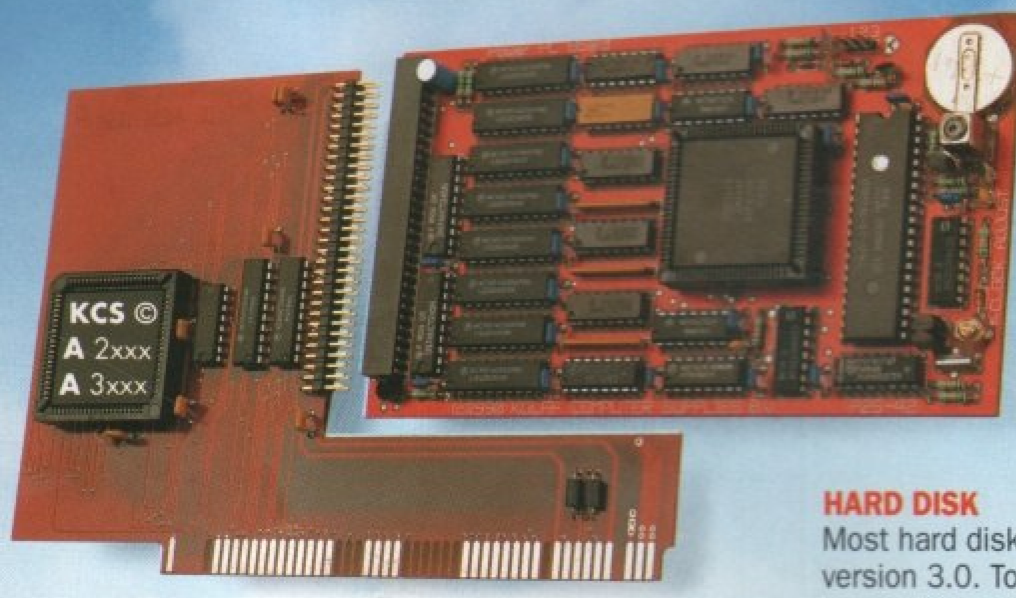
## The best of both worlds in the space of one

PC

AMIGA

Now available with or without MS-Dos See below

Adapter + PC Board for the Amiga 1500/2000/2500/3000




For the Amiga 500

**A500P version now ready and gives you total 2Mb Chip Ram. When ordering state which one you require.**

See us on Stand 58 at the 16-Bit Show February 92 at Wembley

**HARD DISK**

Most hard disks are supported with version 3.0. To be sure give us a ring.

**The KCS Power PC Board adds 1Mb memory to your Amiga and a real time clock**

Think how much 1Mb memory plus a clock costs £__,__

Think how much MS-Dos/GW-Basic/Shell/Dos-Help costs £__,__

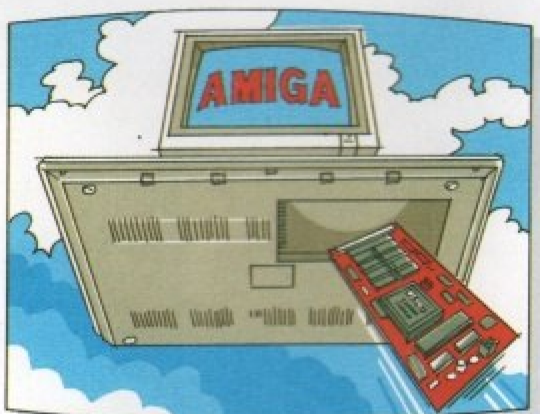
**Which leaves the cost of an AMIGA/PC just £__,__**

For so little outlay the Power PC Board turns your Amiga into an up and running powerful PC, with no hidden costs. The cheapest PC in the world?!

**Run heavyweight professional PC software on your Amiga/PC**



*Microsoft flight simulator 4.0*

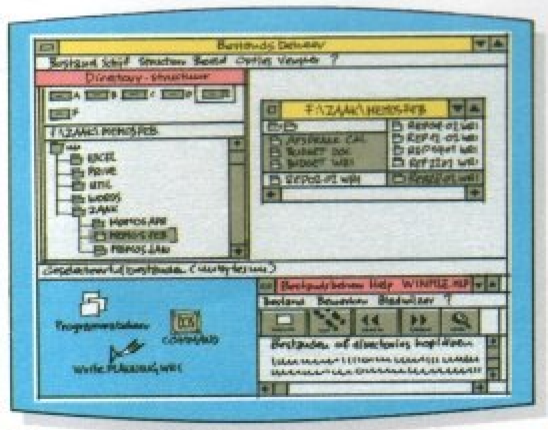



**EGA**

Available (Nov/91) will work from the full EGA colour palette. Both EGA and VGA will work on a standard TV or monitor and in most cases without using interlace.

**VGA**

Version 3.0 of our software (Nov/91) comes with VGA colour and mono option. EGA/VGA will work on all standard Amigas irrespective of which chip set you have.



*Microsoft windows*

***Some extra Goodies:***

- FLICKER FREE FIXER in PC interlace mode. Will work with all Amigas. Software emulated.
- PROCESSOR SPEED can be slowed down from 100% to as low as 16%, so if you have never reached the highest level in a game, now is your chance.
- KCS PC-MOUSE driver will work with your Amiga mouse.
- PAUSE can be activated at any time during a game or program, allowing you to continue at your leisure.

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- Excellent compatibility
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VISA

Access

Compatibility is excellent but no-one can guarantee every single program available, therefore if your purchase depends on a particular program, please ask us first or send in a copy of the program. (With suitable S.A.E. if to be returned). Price subject to change without notice.

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